JPRS-UNE-87-008

4 FEBRUARY 1987

# USSR Report

## NATIONAL ECONOMY







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# NATIONAL ECONOMY

## CONTENTS

## CONSUMER GOODS, DOMESTIC TRADE

### GOODS PRODUCTION, DISTRIBUTION



## ENERGY

### FUELS



### ELECTRIC POWER GENERATION



## TRANSPORTATION

### CIVIL AVIATION



### INTERSECTOR NETWORK DEVELOPMENT

MOTOR VEHICLES, HIGHWAYS



MARITIME AND RIVER FLEETS



/7310

AGRO-ECONOMICS, POLICY, ORGANIZATION

UDC 631.15:33

# RSFSR FARM FINANCIAL LOSSES STUDIED

Moscow SELSKOYE KHOZYAYSTVO ROSSII in Russian No 11, Nov 86 pp 5-7

[Article by Yu. Pekhterev, deputy chief of the Administration of Economics and Intersectorial Relations, and Yu. Zakharov, chief of the subdivision of the Main Administration for Planning and Social and Economic Development of the Agro-Industrial Complex of the RSFSR Gosagroprom: "Where Are the Losses From"]

[Text] If we cast a glance over the picture of economic life in the agro-industrial complex of Russia as a whole, we will inevitably single out an ostensibly gratifying factor such as the slow, but certain, reduction in the number of unprofitable farms and in the total sum of losses incurred by them. This process was accelerated considerably after the well-known decisions of the May (1982) Plenum of the CPSU Central Committee. In the last 3 years alone the number of unprofitable farms decreased to one-third and the sum of losses incurred by them was lowered from 7,230 to 1,458 million rubles, or, on the average, from 438,000 to 265,000 rubles per farm. In 1984-1985 a total of 720 kolkhozes and sovkhozes, which became stably profitable enterprises, were excluded from the lists for the receipt of purchase price markups, the amount of markups was reduced for another 1,683 farms, and the released 637 million rubles were assigned for an increase in markups to other unprofitable and low-profitability farms. Not a single unprofitable farm remained in a number of oblasts; for example, in Leningrad, Moscow, and Lipetsk oblasts. Their number decreased significantly in Vladimir, Belgorod, Kursk, and Kaliningrad oblasts.

However, the rates of implementation of this important matter and, moreover, the attitude toward it on the part of local managers and specialists, frankly speaking, leave much to be desired. Despite the fact that the new system of managing, planning, and financing the agro-industrial complex has greatly simplified the solution of many problems connected with strengthening the economy of lagging [farms] and has extended the rights and opportunities of local bodies, in a number of oblasts, krays, and autonomous republics to this day we often encounter an openly formal, superficial, and rash approach to the realization of the program of assistance to unprofitable and low-profitability kolkhozes and sovkhozes. Ultimately, this results in an inefficient loss of very substantial funds assigned for these purposes by the state.

Facts uncovered in the course of the sample check conducted by a group of RSFSR Gosagroprom workers in Perm and Kemerovo oblasts and in the Checheno-

Ingush ASSR last summer arouse serious anxiety, which is all the more substantiated, because in the light of statistical data these facts can be included among the typical reasons for the slowed down increase in the efficiency of agricultural production.

Let us take Perm Oblast. More than 1.7 billion rubles of state and kolkhoz funds were invested in the oblast's agriculture during the years of the past five-year plan alone. This exceeds the volume of capital investments during the 10th Five-Year Plan 1.5-fold. During that period fixed productive capital increased 1.4-fold and the power-worker ratio, 1.3-fold. The machine and tractor pool was renovated and replenished and the volumes of reclamation construction and deliveries of mineral fertilizers increased. Positive shifts also occurred in the social reorganization of rural areas. It should also be noted that in the last 3 years alone, as a result of the increase in purchase prices and the establishment of markups for low-profitability and unprofitable farms, as well as the establishment of preferential budget financing, the oblast's kolkhozes and sovkhozes additionally obtained almost 684 million rubles of state funds.

The implementation of these and some other measures led to the fact that Perm kolkhozes and sovkhozes completed the past five-year plan with a total profit of 237 million rubles despite the fact that during the first 2 years the oblast incurred 153 million rubles of losses.

As we see, on the whole, the result is positive. However, only at the first glance. With a more detailed examination it is not difficult to note that, to put it mildly, the advances are highly relative. Suffice it to say that with the 1.5-fold growth of fixed capital average annual gross output increased by only 6 percent, but, at the same time, output-capital decreased. Moreover, a significant number of kolkhozes and sovkhozes continue to experience serious economic difficulties. At the beginning of this year approximately every third farm had a profitability of up to 10 percent. Whereas in 1983 a total of 74 kolkhozes and sovkhozes were included in the lists of unprofitable ones, in 1985 their number increased to 140, unprofitableness exceeding 30 percent on 130 of them. We would like to note that there is a total of 429 farms in the oblast. A conclusion about the inefficient utilization of the resource potential existing in the oblast suggests itself. Moreover, most farms, which include low-profitability and, all the more, unprofitable farms, year after year play the role of parasites and dependents, while strong farms, which comprise less than one-half of the kolkhozes and sovkhozes existing in the oblast, ensure satisfaction in the general oblast report.

The low level of production development and the low standard of farming and animal husbandry should be especially singled out among the reasons for the unprofitableness of many farms. One does not need to be a genius to note this. It could have been possible to take appropriate measures even at the beginning of the past five-year plan, ensuring, for example, an outstripping development of the feed base, whose deplorable state is responsible for the very low average--2,222 kg per cow--milk yields in the oblast and even lower--from 1,500 to 2,000 kg--on unprofitable farms. However, during the past five-year plan capital investments in feed production made up only 4 percent and on lagging kolkhozes and sovkhozes, where maximum attention should be paid to

this matter, the development of the feed base accounted for only 1 (!) percent of the total volume of funds assigned to this group of farms. This year the Perm Oblast agroprom made the correct decision to build warehouses for hay storage on every farm and allocated funds and materials for these purposes. It is clear that this measure does not fully solve the problem. However, if at least it would be implemented systematically! The year is drawing to an end, but warehouse construction is by no means completed everywhere.

An impression is created that stinginess with respect to low-profitability and unprofitable farms is a characteristic feature of the managers of the Perm agroprom. Suffice it to say that these farms, despite their obviously insufficient provision with capital, year after year receive for their development one-half of the capital investments as compared with the average oblast indicator. As a result, on many of them the provision with fixed capital per 100 hectares of arable land does not exceed 55,000 rubles, which is less than one-half of the average oblast level. In this case is it possible to count on any substantial economic result?

Obviously, not enough attention is paid in the oblast to such an important reserve as advanced forms of labor organization and wages. Often the attitude toward this matter is particularly formal. For example, the measures prepared for 1983-1986 envisaged transferring all structural subdivisions of unprofitable farms to intracost accounting as early as 1985. However, this work has not been completed to this day. Such an important cost accounting element as incentives for saving direct expenditures is not utilized at all. As a result, wages very often grow much more rapidly than labor productivity. For example, on the unprofitable Speshkovskiy Sovkhoz in Ocherskiy Rayon during the five-year plan wages increased by 32.8 percent, while labor productivity rose by only... 1.1.

Unfortunately, such a situation, apparently, should be considered typical. For confirmation we will turn to examples from the practice of the Kemerovo Oblast agroprom. Detailed measures, whose realization made it possible to strengthen the economy of 24 unprofitable farms and to ensure on each of them a profitability of more than 10 percent, were also developed there. What turned out in practice? A total of 17 kolkhozes and sovkhozes from the mentioned group were able to overcome the lag and to ensure an excess of income over expenditure by the end of the five-year plan. However, despite the favorable climatic conditions of the last 2 years, the total number of unprofitable farms in the oblast by the beginning of this five-year plan increased from 24 to 38, but the sum of their loss rose from 6 to 9 million rubles.

RSFSR Gosagroprom workers departing for Kemerovo Oblast simply did not have the time for a detailed analysis of the situation that had been created. Moreover, it was not even included in their duties to replace local managers and to analyze in detail the reasons why seven kolkhozes and sovkhozes did not succeed in moving from the initial list of unprofitable to the category of profitable ones and why, at the same time, another 31 farms supplemented the list of "debtors." The situation was utterly clear to us: Unsatisfactory results in increasing production efficiency and overcoming unprofitableness were the consequences of the lack of systematic and purposeful work both on

the part of the lagging kolkhozes and sovkhozes themselves and on the part of RAPO and the oblast management link. We have every reason to maintain that, in point of fact, measures developed in the oblast were formal. The fact that the course of realization of these measures was not examined by the oblast agroprom board and kolkhoz council and by RAPO councils even once in 2 years is sufficiently eloquent.

The obvious oversights in the distribution of purchase price markups for products sold to the state by low-profitability and unprofitable farms also point to the lack of attention to this important matter. The harmfulness of the formal and superficial approach in this matter is fraught with financial, as well as serious moral, costs.

An analysis of the correct and substantiated distribution of markups in Kemerovo Oblast during the formation of the list of low-profitability and unprofitable farms demonstrated this unequivocally.

Let us turn to facts. During a regular review of the list for completely incomprehensible reasons high-income farms with a profitability level ranging from 25 to 43 percent were included in the group of farms receiving markups. For example, in 1983 the Progress Sovkhoz in Yurginskiy Rayon had 808,000 rubles of profit and a profitability level of 43 percent. For 1984 it was supposed to receive 438,000 rubles of markups, but actual payments totaled 466,000. Why? Having received a fairly large sum of "gratuitous" money, the farm sharply lowered production rates. As a result, in 1985 the amount of profit decreased to 705,000 rubles and the profitability level dropped to 27 percent. At the same time, a minimum amount of markups was established for a number of lagging farms. It is not surprising that they were unable to overcome unprofitableness.

In the oblast there are quite a number of farms which have overcome the lag owing to markups, but "by inertia" continue to receive substantial sums. However, according to existing rules farms with a profitability level of more than 25 percent are required to make certain deductions into the state budget. In Kemerovo Oblast in 1984 the amount of such payments totaled 2.6 million rubles, but in 1985 it increased to 5.1 million, that is, it almost doubled. Who needs such an "idle" transfer of budget funds through farm tills? After all, these millions could be utilized, for example, for expanding and accelerating construction on lagging kolkhozes and sovkhozes and for strengthening their production base and social infrastructure.

The following fact should also be included in the scandalous examples of the lack of control and incompetent utilization of funds assigned by the state for assistance to lagging farms. On the Kolkhoz imeni V. I. Lenin in Tisulskiy Rayon the entire sum of markups received last year, which totaled 212,000 rubles, was spent on an increase in wages, as a result of which they exceeded the farm's gross income 1.5-fold.

A great deal of formalism is also manifested in such an important matter as the organization of patronage help. For example, Kemerovo Oblast quite originally approached the realization of the patronage help of Komsomol organizations to economically weak kolkhozes and sovkhozes: The suburban

Mazurovskiy Sovkhoz, which did not belong to unprofitable sovkhozes and in its saturation with fixed capital surpassed the average oblast level almost twice, was included on a list, which had only three farms.

Incidentally, this is only one out of numerous facts indicating that the closer a farm is to the administrative center of an oblast or a rayon, the more volunteers are there to help it. Meanwhile, truly unprofitable farms with a weakly developed production and social base, as a rule, are located in remote areas. However, nothing will induce a mobile mechanized construction column, railroad workers, or agrochemists to go there. One need not go far for examples. In the same Kemerovo Oblast the unprofitable Mir Kolkhoz is located 70 km away from the administrative center of Promyshlennovskiy Rayon. A hard-surface road to it has not yet been built. For a number of years mobile mechanized contract brigades stationed in the rayon center, which annually utilized up to 15 million rubles, did not earn even 1 ruble on that farm. The kolkhoz carries out all construction by the economic method, utilizing up to 1 million rubles annually. The rates are obviously insufficient to rapidly strengthen the production base and to finally break away from the list of eternal debtors.

Nor do agrochemists like Mir. For 3 years they have intended to begin carting out organic fertilizers to the farm's fields. The kolkhoz does not have sufficient forces and equipment. As a result, a 4-year reserve of this valuable fertilizer has been accumulated at livestock sections.

This is by no means an exception. Let us take Perm Oblast. If we look "by and large," the oblast agro-industrial complex manifests great concern for the development of a network of roads of local, including intrafarm, significance. A total of 207 km of hard-surface routes were put into operation in the oblast last year, that is, on the average, 1/5 km per farm. Not bad! Only this did not make it easier for unprofitable kolkhozes and sovkhozes. They make up almost one-third of the total number of farms in the oblast. But they account for... 2.3 km of new convenient roads--a little more than 1 percent of those built annually.

Therefore, it is not surprising that a chronic shortage of key trade personnel and a tendency toward an increase in the outflow of the able-bodied population are observed on such farms. In Kemerovo Oblast alone the shortage of labor resources on unprofitable farms comprised approximately 15 percent. As a result, the load of arable land per worker amounts to about 16 hectares, which exceeds a similar indicator on economically strong farms 1.5-fold. There is approximately the same picture in Perm Oblast, Checheno-Ingushetia, and a number of other oblasts, krays, and autonomous republics. For example, in the last 2 years the number of workers on unprofitable farms in Saratov Oblast and Altay Kray was reduced by 4 percent and in Kirov and Orenburg oblasts, by 6 or 7 percent. This is the natural result of the insufficient attention to a fundamental improvement in the social and every-day infrastructure and to a rise in the level of economic activity and production standard.

However, where should they come from if in the near majority of cases territorial agroprom and RAPO workers use the administrative method, which has long demonstrated its hopelessnes and, moreover, objective harmfulness, not as

a radical, but simply the only, method of rectifying the situation. They act according to the following principle: Once the result is bad, it means that the manager is not good. What should be done? He should be replaced! Often the manager of a lagging farm himself, seeing a formal attitude toward his needs on the part of superior bodies, prefers by hook or by crook "to hand matters over to his successor."

In the same Perm Oblast there is an obvious tendency toward an increase in the turnover of key personnel and specialists in the group of lagging farms. Whereas during the 10th Five-Year Plan 86 first managers of unprofitable kolkhozes and sovkhozes were replaced, during the 11th Five-Year Plan, 90; 75 and 91 chief agronomists, 78 and 98 chief engineers, and 48 and 65 chief economists respectively.

In Checheno-Ingushetia the length of service of managers and specialists on lagging farms, as a rule, does not exceed 2 or 3 years. Every fifth kolkhoz chairman and every fourth sovkhoz director were annually replaced throughout the ASSR. In Groznenskiy Rayon farm managers were replaced twice during the five-year plan. As a rule, after each such replacement the results of production and financial activity declined markedly. For example, two directors, two chief agronomists, four chief engineers, three chief accountants and chief economists, and two chief veterinarians were replaced on the Kalausskiy Sovkhoz in Nadterechnyy Rayon. Should one be surprised that in 3 years the farm incurred 2.2 million rubles of losses?

The following is also interesting: Examining the results of work of unprofitable farms at balance commissions, territorial APK bodies do not forget to punish the managers and specialists "at fault" and relieve them of their positions. The critical, so to speak, part of the work is fulfilled. But with respect to self-criticism the situation is rather bad. In the same Checheno-Ingushetia and not only in it the decisions adopted by balance commissions nearly always are of a formal and nonspecific nature and, therefore, remain unrealized. Control over the execution of these decisions often is reduced to the demand to promptly submit information on the basic indicators of the activity of lagging farms. This information basically accumulates as dead weight in the archives of economic planning RAPO services and, if at all, is used only for the adoption of punitive administrative decisions.

However, is this really the chief thing? It is high time for workers of local agro-industrial bodies to glance around more intently and to seriously ponder: Is the adopted policy correct? Instead of endlessly shuffling cadres of managers and specialists, is it not better to train and teach them systematically? On the same Kemerovo Mir during 3 years of work the chairman has never received on-the-job training. Experienced managers and production organizers, who, of course, are in the oblast, have not come to him to transmit their knowledge and experience in the form of patronage or tutorship, as is done, for example, in Tyumen.

Of course, a successful fulfillment of the overall program of assistance to unprofitable and low-profitability farms and a fundamental strengthening of their economy are inconceivable without major capital investments in their

production and social development. Throughout the Russian Federation the volume of such investments is growing year after year. It is especially important to utilize these sizable funds competently and purposefully. Territorial agroprom bodies have now been given big rights and opportunities in this respect. In other words, all the conditions have been created so that the allocated funds are not "eaten" for nothing, but work efficiently for the growth of the economic potential of the agro-industrial complex. However, is the solution of such a complicated and responsible task within the power of the staff of territorial bodies? It is, if they definitively give up obsolete principles of management and if they count on the economic aktiv. Today, as was the case half a century ago, a great deal depends on people and specialists. Remember the slogan: Personnel decide everything. Today, as perhaps never before, it is necessary to lean on the aktiv, on personnel with a length of service, and on those who have demonstrated their professionalism in action. Practice indicates--and we will find such examples in any region in Russia--that a harmonious and able-bodied collective of specialists and medium-link and mass trade personnel is not formed suddenly. This takes years. It is easy to break what has been created. Often it is sufficient to replace a manager for this. It is not accidental that directors and chairmen of advanced sovkhozes and kolkhozes head their collectives not merely for years, but for decades.

There are such people in every oblast, in every kray, and, possibly, in every rayon. Their experience and knowledge represent very valuable training for young managers. Matters should be organized so that young people receive this training without fail. This is much more useful than to rush with punishments and removals from posts. It is difficult to call such a practice any other than formalism and economic superficiality. Formalism and superficiality have never brought anything but losses.



11439
CSO: 1824/86

## BELORUSSIAN KOLKHOZ CONFERENCE VIEWS APK PERFORMANCE

Minsk SELSKAYA GAZETA in Russian 26 Nov 86 p 3

/Article by M. Shimanskiy: "Improving Economic Work in Rural Areas"/

/Text/ From a republic conference of representatives of kolkhoz councils.

The period of time which has elapsed following the May (1982) Plenum of the CPSU Central Committee has been beneficial for our rural areas. A great amount of work in connection with improving the economy, intensifying all branches of agricultural production and implementing the tasks of the Food Program has produced real results. The gross indicators for the production of all types of products have been raised, the financial status of kolkhozes and sovkhozes has been strengthened and 630 farms are operating on a self-supporting basis.

In taking note of the positive accomplishments which have taken place and which are taking place in agricultural production, the participants in the republic gathering of representatives of kolkhoz councils of oblasts and rayons, which was held only recently in Minsk, outlined the means for further raising the economic effectiveness of farming and livestock husbandry development. Reports were delivered by the 1st deputy chairman of the BSSR Council of Ministers and chairman of Gosagroprom /State Agroindustrial Committee/ for the republic Yu.M. Khusainov and the chairman of the Kolkhoz Council for the Belorussian SSR and chairman of the Progress Kolkhoz in Grodnenskiy Rayon Hero of Socialist Labor A.I. Dubko. The chairmen of the kolkhozes imeni Kalinin in Nesvizhskiy Rayon Hero of Socialist Labor Ya.V. Aleksankin, Sovetskaya Belorussiya in Kamenetskiy Rayon Hero of Socialist Labor V.L. Bedulya, Pobeda in Gomelskiy Rayon V.M. Slesar and others participated in a discussion of the reports.

In the reports and in the statements made concerning the reports it was clearly apparent that the reorganization of the economic mechanism, including the agroprom /agroindustrial committee/, has presented the workers with broad opportunities for creativity and for fruitful work. And these opportunities are being employed in an active manner in the various areas in behalf of efficient farm management.

There are many means and methods for achieving high results. But it was stated during the conference that by no means if full use being made of the available

opportunities. During the past five-year period, the economic shortcomings precluded the possibility of achieving the planned goals in keeping with the additional investment resources. Increased production is still largely determined by raised purchase prices. The amount of deferred payments is great, at the level of 110 million rubles. The majority of the farms do not have their own internal working capital. Output production costs on the whole increased by 7 percent, at the level of 20-30 percent of the profitability of management. The production costs for livestock husbandry products are especially high. Within the republic, only 630 farms are operating with a profitability in excess of 40 percent and approximately 1,000 -- less than 15 percent. Although this year the economic indicators will improve, nevertheless 10 kolkhozes are ending the year with losses. What are the reasons for such unprofitability? The work being carried out in various areas is being analyzed and generalizations, conclusions and specific recommendations are being prepared.

At the same time, the initial base in the rural areas is making it possible to work with a much greater return. During the conference, it was noted that agriculture actively increased its means of production during the past five-year plan. Fixed capital increased by 54 percent and the power capabilities per 100 hectares of agricultural land -- by 55 percent. The return from this capital and capabilities continues to remain low. In field crop husbandry, the increase in gross output during the same period amounted to 40 percent and in livestock husbandry -- only 26 percent. All of this serves to indicate that the growth in output expenditures, including wages, in a number of instances is still not being compensated by an increase in output. This tendency affects all, even leading workers. In accordance with an accurate determination made by the chairman of the Kolkhoz imeni Frunze in Shklovskiy Rayon A. Dumler, who spoke during the conference, the process of a unique erosion of fixed capital had commenced. The facts were alarming: the production cost for grain had increased by 4 percent, potatoes -- by 12, flax straw -- by 20, sugar beets -- by 18, milk -- by 16 percent. And only one indicator -- the weight increases in hogs -- turned out to be lower in terms of former expenditures.

The task remains of finding an anti-expenditure mechanism for production. It has been said that desire alone is not enough for carrying out this work. Thought must be given to how best to achieve the new work level using the same resources and operating from the same initial positions. Here there is one method -- the intensive method. Unfortunately however, many of the specialists in whose hands the fate of production rests have mastered the economic side of this problem to only a weak degree.

An extreme need exists for teaching the personnel how to operate under the new system. This includes a persistent requirement for reorganizing, a primary condition for which is that of converting over to self-financing operations. The question might well be asked: why is it that a reduction has been achieved in production costs in swine husbandry operations, formerly an unprofitable branch? This occurred mainly owing to the fact that the new production level has been consolidated at the complexes. In addition, there are new personnel here who are correctly mastering the technology. Unfortunately, not all of the lessons of intensive management are being mastered in other branches; the inertia of the past is still quite strong. Here is a typical example. Winter

rape for grain was sown in August and everyone was aware that the sowing norm was not more than 4 kilograms per hectare. At the present time, during the snow period of crop tending, it is clear that this norm was inflated by at least twofold in all areas and that the possibility of a 100 percent wintering of the crops with a raised plant density is declining considerably.

The personnel must receive training in the intensive methods of management and based upon examples drawn from leading practice, although at the present time there are few such examples available. Moreover, the specialists of all levels must be taught on the basis of analysis carried out taking into account the mistakes committed: such training is especially objective and effective. The programs of exercises have been prepared and yet they are lying unused at many RAPO's /rayon agroindustrial associations/ and have not been sent out to the farms. Once again, sluggishness and waste are being tolerated.

Next year it will be necessary to obtain on average not less than 28-30 quintals of grain, 200 quintals of potatoes, 450 quintals of root crops, 300 quintals of sugar beets and 3,000 kilograms of milk per cow. It was stated during the conference that these goals constitute an economic need. Only on the basis of such a level will it be possible to commence the reverse process of lowering output expenditures -- the first solution for self-support. In order to carry out such work and achieve such results, there must be desire, persistence and accurate knowledge. The experience of the past two years allows us to state that the plans as outlined are tense and yet nonetheless realistic.

This year, not only individual farms but in fact entire rayons and even oblasts have achieved fine results in terms of some indicators. A fine increase in the annual milk yield is expected this year in a number of rayons, including Chervenskiy, Klimovichskiy, Bobruuskiy, Minskiy and other rayons. This testifies to the fact that reserves for growth are to be found at both weak and strong farms and rayons.

A RAPO plays a special role during the reorganizational period. It must be a collective organ for administration in a rayon and it must encourage independence and initiative. As yet, the majority of the rayon councils of the agroprom have not acquired such qualities. They mechanically inherited the former administrative functions and duties, their operational style is inflexible and the innovation is drowning in a sea of regulations. Just as in the past, a great amount of paperwork is being produced and the RAPO is also diligently producing such paperwork. It is known for a certainty: one finds a great amount of paperwork in those areas where there is very little order and where partners are neither valued, respected or trusted. Although the figures on introduction of cost accounting procedures into field crop husbandry operations would seem to be considerable, nevertheless the effect of the contract system is still inadequate. Thus -- and this recommendation was made from the tribune of the conference -- recertification of the rayon level personnel must be carried out.

What principal trends for improving economic operations were defined during the conference as a result of a collective discussion of the urgent problems of the agroprom?

It is the unanimous opinion of all that the extensive spread of the economic contract system constitutes a creative rather than a formal introduction of it. It has been noted that in those areas where the work has been turned over to a strong contractual collective, many problems seem to regulate themselves. This includes the yield of products, production expenditures, profitability, resource conservation, wages based upon final results and so forth. The task has been assigned of examining the experience of contractual elements and subunits in the various areas and bringing to task those who employ a formal approach in carrying out this work, including RAPO specialists. The time is at hand for converting all specialists over to wages based upon final results -- examples of the use of such an approach can be found throughout the republic.

The organizational aspects of the work often suffer, the administrative system in the various areas is not reviewed, the output norms are lowered and hence violations occur in the wage system. According to a recent check, 1.5 million rubles worth of wages were issued over and above the norm at 245 farms alone. The system of purchase prices is not being employed intelligently in the various areas. It was for these reasons that the republic's farms were unable to obtain 8.4 million additional rubles from the sale of barley alone; much has been lost and is being lost in connection with the sale of rye, flax and livestock husbandry products.

The farms are not utilizing fully their right to sell 30 percent of their vegetable and potato volumes at the market -- here the shortfall during 1 year alone amounted to 32 million rubles.

The former trend towards above-norm purchases of new equipment and increases in fixed capital is continuing. A random check carried out at 18 farms over 2-3 years has shown that 109 units of equipment were not included in operations and merely posed a burden to the farms.

It is obvious that the true foundation consists of efficient and productive utilization of the land. There are sufficient leaders for such work in all of the zones and their example should be multiplied and made available to all. The intensive technology is the means to achieving high results. The results of management are much greater in those areas where this technology has taken root. We have everything needed for carrying out such work -- personnel, machines, varieties and so forth.

The rates for improving the economy are largely dependent upon the construction of roads in the rural areas, contractual construction, including housing and the development of a social-domestic complex, subsidiary trades and trade proper.

Today the methods for further developing the agrarian sector of the economy are determined by many factors. And the chief one of them is the personnel, their ability and talent for carrying out economic maneuvers and their competence. Today such requirements are being imposed upon everyone without exception, commencing with rank and file machine operators and livestock breeders and including rayon and oblast specialists.

The method which involves strengthening the economy based upon production intensification, thrifty expenditures of funds, raw materials and energy

resources, economic initiative and independence conforms more fully to the tasks of reorganization and to the statutes embodied in the decree of the CPSU Central Committee and USSR Council of Ministers entitled "Further Improvements in the Economic Mechanism for Management in the Country's Agroindustrial Complex." And this method, as noted by those who delivered speeches during the conference, is the only true one.

The participants in the conference unanimously adopted an appeal addressed to all kolkhoz members, sovkhoz workers and the leaders and specialists of the Belorussian agroindustrial complex. In addition, they elected a new staff for the republic's kolkhoz council and also the delegates to the All-Union Conference of Representatives of the Kolkhoz Councils of Union Republics. Once again, A.I. Dubko was elected to serve as the chairman of the Kolkhoz Council for the Belorussian SSR.

The secretary of the Central Committee of the Communist Party of Belorussia N.I. Dementey delivered a speech during the conference.

7026
CSO: 1824/88

UDC 631.15:65.011.4:636.4

# HOG RAISING PROGRESS, INTENSIFICATION GOALS REVIEWED

Moscow ZHIVOTNOVODSTVO in Russian No 10, Nov 86 pp 2-6

[Article by V. M. Kozhevnikov, chief, Subsection for Scientific Systems of Animal Husbandry and Animal Product Production, USSR Gosagroprom: "Improve the Efficiency of Hog Raising"]

[Text] The decisions of the 27th CPSU Congress and the June (1986) CPSU Central Committee Plenum presented agro-industrial complex workers with specific tasks to accelerate the growth rates in animal product output, above all, meat.

During the 12th Five-Year Plan average annual production must be increased 2.8 million tons over the figure in the 11th Five-Year Plan. This means doubling the growth rates attained. Hog production has been given an important role in realizing this program. It is intended to obtain one-fourth of all increases in meat production through this fast growing sector.

In recent years there have been some advances in the development of hog production. During 1981-1985 hog production in all categories of farms increased by 12 percent compared to the 10th Five-Year Plan and there have been some improvements in the sector's quality indicators. There were increased births of piglets per 100 sows, improved productivity for hogs on feed, increased numbers of hybrid animals and of piglet sales to the population. The sector is systematically converting to an industrial basis. More than one-third of hogs produced in the public sector are raised at large specialized enterprises. However, hog production development levels are not meeting present demands.

At quite a few kolkhozes and sovkhozes hogs are still raised on an extensive basis, and animal productivity remains low. The time required to raise and feed animals is 1.5-2 fold higher than required by technology for attaining good preslaughter condition. The animals' genetic potentials are often only 50-60 percent used.

In 1985 the average daily weight gain for hogs on feed at farms in the Ukraine was only 266 grams, and they were more than 500 days old and weighed 104 kg (live weight) when delivered to the state. It took an average of 540 days to raise hogs at farms in the Georgian SSR and 659 days in the Turkmen

SSR. There are low levels of hog production and feeding organization at many farms in Ural, Aktyubinsk, Taldy-Kurgan and Turgay oblasts in Kazakhstan.

Pork production per initial animal (on 1 January) is a most important indicator for operations. In Belorussia, Lithuania and Estonia it was 102-123 kg live weight. It is 160-190 kg on the country's better farms: The Sovkhoz-Kombinats imeni 50 years of the USSR in Gorkiy Oblast (Ilinogorskiy), the imeni 60 years of the USSR in Minsk Oblast, BSSR, the "Estonia" Kolkhoz in the Estonian SSR, the Mayak Sovkhoz in Kemerovo Oblast, the Riudbazhi Sovkhoz in the Latvian SSR, the Kolkhoz imeni Chernyakhovskiy in Radvilishkskiy Rayon, Lithuanian SSR. However, it is less than 70 kg in the Ukrainian SSR, a number of oblasts in the RSFSR (Kursk, Orel, Lipetsk, Tambov, Volgograd and Rostov), and in the Central Asian and Trans-Caucasian republics.

What are the reasons for lagging in the sector? Primarily, they are the insufficient introduction of intensive production methods, failure to observe technological discipline and poorly used economic tools in the economic mechanism.

Incomplete feeding, especially of young animals, is having a negative effect. Production volume at specialized mixed feed plants is insufficient even for hog raising complexes and large mechanized enterprises with production based upon intensive technology. To a considerable extent this is explained by the fact that many of them have still not reached planned capacity.

The extensive development path is completely exhausted. Studies show that solving these tasks by previous methods would require increasing the swine herd by 25-30 million head, attracting an additional 240,000 people to work in the sector and investing more than 9 billion rubles in it. As is known, the national economy's resources are not limitless. Therefore, as indicated in the decisions of the 27th CPSU Congress and the June (1986) CPSU Plenum, the only economically correct path is universal production intensification.

The main direction for production intensification should be to increase animals' average daily weight gain, reduce the time needed to raise and feed them, improve herd reproduction and reduce animal losses with a relatively stabilized herd size.

By 1990 it is intended to increase intensive technology hog production in the public sector to 72 percent of total volume, compared to 31 percent in 1985. In the 12th Five-Year Plan minimal parameters for intensive technology are: obtain 18-20 piglets per sow annually, a 400-450 gram average daily weight gain for animals being raised and on feed, including 470-500 grams for animals on feed, hogs reaching 108-110 kg in 280-290 days, and 560-650 feed units consumed per 1 quintal of weight gain.

These are realistic indicators. They have already been attained by a whole series of farms in different zones. Thus, at the Moldavskiy Swine Raising Complex in the Moldavian SSR (54,000 head) in 1985 average daily weight gain during raising and feeding was 529 g, and 635 g for animals on feed. It took a little more than 200 days to reach 112 kg delivery weight.

In the immediate future it is necessary to determine the specific farms in all republics, krays and oblasts which will convert to intensive methods, develop technology for them which makes provisions for the sector producing significant quantities of its own feed, and organize the training of specialists and other workers.

The introduction of flow line systems for hog production helps in the sector's intensification. The main features of this are the flow nature of production and regular patterns in obtaining piglets. The advantages are obvious. More effective use is made of fixed capital, brood sows, labor, material and financial resources. In order to obtain this flow pattern there must be sufficient housing for animals in various productive groups. In actuality, this main requirement is not always observed. Many swine raising farms do not have enough special housing for each stage in the production process, especially housing for pregnant sows and replacement animals.

Production intensification presumes the constant reconstruction of buildings and the introduction of modern technological solutions.

It is a difficult task. It is necessary to work out and implement a precise modernization program for hog farms based upon the extensive introduction of progressive technology assuring high animal productivity and reduced feed, labor and other costs. This work must be started with a inventory of existing hog farms and complexes. Then they should be prepared for reconstruction, expansion and technical reequipment, based upon individual designs.

The experience of Estonian hog raisers is instructive in this regard. Up until 1970 hog production in this republic was mainly concentrated in small farms, with animal housing which, as a rule, was not linked together technologically. This led to inefficient use of the production area and low animal productivity.

In 1975 in the republic design organizations became involved in the inventory of all hog farms, made individual proposals for their reconstruction, determined requirements for additional housing, equipment and machinery.

The second inventory, which began five years later, included everything which had been done in the previous period. Preparations are now under way for a third inventory.

Using results from the first inventory, specialists determined the optimal hog production volume for each farm. The main guideline was the farm's feed production capacity, which has a definitive influence upon production costs. Studies show that farms producing 400-600 tons of hogs annually produce 81 percent and purchase 19 percent of all feeds consumed, while at farms producing 600-800 tons annually these figures are 73 and 27 percent. Further concentration would require increasing the share of purchased mixed feeds to 45-50 and more. Complexes raising 54,000 and more hogs would purchase all their feeds. Therefore, in determining the prospects for the sector's development in Estonia preference was given to industrial type farms producing about 600 tons annually. This made is possible to expand hog production based upon feeds produced directly at farms, with only protein-vitamin supplements

and vitamins being delivered. This considerably reduced the transportation of feeds in the republic, because balanced feeds are prepared on the spot.

At the same time another equally important problem was solved -- the intensive use of hog production area according to the principle "everything is free -- everything is occupied". This method has assured year around herd reproduction and young animal feeding. It is also important that reduced herd sizes at a given farm have also made possible economic solutions to manure use and environmental protection without expensive construction.

The results were not slow in showing: in 1985 the republic's entire public sector produced 123 kg of pork per initial head, the average sow gave birth to 18.5 piglets, average daily weight gain of animals on feed was 481 g, and 560 feed units were consumed per 1 quintal of live weight gain.

There is positive experience in the introduction of the flow line system for hog production in Lithuania, Moldavia, Belorussia and at farms in a number of oblasts in the Russian Federation and other republics.

Hog operations in all republics and oblasts now have enough large buildings which could be adapted for flow line technology. Concurrently, in a number of places this question is only handled formally. Thus, in the Kazakh, Georgian and Armenian SSR's they have not even begun inventories of hog farms, while this work has not been completed at many oblasts in the Russian Federation and the Ukraine.

Only one-third of the country's farms use flow line technology, the remaining work in the old way.

The widespread introduction of industrial technology improves labor productivity and the sector's economic indicators. There are many examples. Thus, in the Estonian SSR each quintal of live weight gain requires about 9 person hours and sector profitability is almost 50 percent. Hog raising is also profitable in the Lithuanian, Latvian and Belorussian SSR's. Practical experience at progressive farms and complexes shows that labor outlays per quintal of weight gain can be reduced to 2-4 hours.

However, at many farms labor productivity is still low and only slowly growing, in spite of considerable increases in capital investments. During the past five-year plan, while fixed capital per animal increased, on the average, from 288 to 408 rubles, or 42 percent, work load per worker only increased by 7 percent, and was 132 head, labor outlays per 1 quintal of growth were only reduced by 10 percent.

In the Ukrainian SSR labor outlays per 1 quintal of weight gain remained at the 1980 level. Animal load per worker does not exceed 120 swine.

The situation is about the same in the Kazakh SSR. The Turkmen SSR has the highest capital per animal ratio - 749 rubles. However, in spite of this, labor outlays per quintal of pork are 26.7 hours at kolkhozes and 46.5 at sovkhozes.

Labor productivity is very low in the Georgian SSR. Each worker here only takes care of 84 swine, while labor outlays per 1 quintal of growth are 82 person hours at kolkhozes and 65 at sovkhozes.

It is disconcerting that in the past decade there have been no positive advances in the sector's economic indicators. While back in 1974 hog production was loosing money only on kolkhozes in the Uzbek and Turkmen SSR's and sovkhozes in the Tajik and Armenian SSR's, by 1984 kolkhozes in 9 union republics were loosing money (RSFSR, Ukrainian SSR, Uzbek SSR, Kazakh SSR, Georgian SSR, Moldavian SSR, Tajik SSR, Armenian SSR, Turkmen SSR), and so are sovkhozes in 4 republics (Uzbek SSR, Kazakh SSR, Moldavian SSR, Turkmen SSR).

Each kolkhoz and sovkhoz should learn the reasons for the sector's losses and work out specific measures to correct the situation.

Industrial hog production's reserves are not used with the needed efficiency. For the country as a whole, the designed capacity of swine complexes introduced was only 80 percent used and the 1985 pork production plan was 96 percent fulfilled. While average daily weight gain at all complexes was 445 g, in the Ukrainian SSR, Kazakh SSR, Tajik SSR and Armenian SSR it was 359-391 g and in the Turkmen SSR -- 280 g. Out of 598 swine raising complexes 121 are loosing money, including 56 in the RSFSR, 49 in the Ukraine, 3 in Uzbekistan and 5 in Moldavia.

All this indicates that at some kolkhozes and sovkhozes economic work is not being done at the needed level, many farm specialists do not analyze the sector's condition and are not making specific proposals to improve its profitability.

As hog production intensifies the question arises as to whether or not summer pens are being effectively utilized. As is known, summer pens have always been widely used in domestic hog production. However, with its conversion to an industrial basis, interest in such pens has declined markedly, often small animal farms have even stopped using them. Practical experience shows that this is a mistaken approach. With continuous production and the constant use of facilities, there is often deterioration in sanitary-hygienic conditions, pathogenic microflora accumulate, animals' resistance declines and structures and equipment break down. Lethargy and agalactia among farrowing sows are unique syndromes of industrial technology.

The experience of many farms in various regions shows that moving swine to summer pens makes it possible to free the main facilities long enough to sanitize, repair and rebuild them, without disrupting the technological rhythm and flow of production.

Summer pens are especially effective for boars, replacement animals, barren and pregnant sows and for young sows giving birth to their first litter.

Having sows give birth to piglets while outside industrial zones is a widespread practice in Leningrad Oblast, in particular at the Spirinskiy and Romanovka Sovkhozes. This improves the young animals' survival rate and reduces production costs.

One can also give several other examples showing the successful use of summer pens at industrial type farms.

The Komsomolets Sovkhoz in Kuybyshev Oblast, which raises 54,000 swine annually, obtains 35-40 percent of its piglets from pens. As a result, the number of difficult births is reduced by almost half, while the number of live piglets per litter is increased by almost 10 percent. This permits the farm to obtain almost 5,000 more young animals during the summer period.

The Taldom Sovkhoz in Moscow Oblast, which annually sells about 50,000 swine for meat, obtains more than 10,000 piglets from these pens. The number of difficult births is reduced to half that at regular facilities and the piglet survival rate is 96 percent.

If production is properly organized at outdoor pen operations, labor productivity can be sufficiently high. At the Kolkhoz imeni Zhdanov in Rakityanskiy Rayon, Belgorod Oblast, 2 operators take care of 4,500 pigs at summer pens. From May to November daily weight gain averages more than 500 g and feed consumption does not exceed 420 feed units per quintal of weight gain.

The Kolkhoz imeni Chernyakhovskiy in Radvilishkskiy Rayon, Lithuania has positive experience in using summer pens. Thanks to such pens labor productivity at the hog farm increased 3.5 fold, feed consumption per quintal of weight gain declined by 22 percent, and animal losses by 9 percent. In 1985 litters averaged 19.7 animals and daily weight gain for animals being raised and on feed averaged 546 g, including 582 for animals at pens. The sector had a high profit rate -- 78 percent.

A lot of work on intensifying hog production is being done in the Lithuanian SSR. Here much attention is also being given to organizing swine raising in summer pens. As a result, for many years farms in the republic have had steady indicators. Each sow gives birth to more than 20 piglets annually, average daily weight gain for animals on feed is 440-460 g, hogs reach 106-108 kg in 320-340 days, and pork production per initial head is 117-120 kg.

All breeding farms and more than 70 percent of the commercial farms in the republic have summer pens. About 80 percent of the sow herd is transferred to them and 82 percent of the piglets born during the summer are born there. More than 60 percent of the annual quantity of verified sows farrow in these pens. These sows are widely used to obtain additional piglets for sales to the public. Most of these pens are built from designs by the Institute for the Design of Agricultural Structures, Lithuanian SSR.

Lithuanian SSR kolkhozes' experience in organizing intensive hog production should find widespread application in all republics, krays and oblasts.

Full valued and balanced feed is the basis for high efficiency in hog production. However, in many republics and oblasts this important question is given very little attention.

In the past 15 years the availability of feed to the country's swine has deteriorated somewhat. There is cause for concern when in a number of regions the growth rates of swine feed production lag behind increases in herd size. Thus, on farms in the Russian Federation feed consumption (in absolute magnitudes) increased by less than 2 percent, while the swine population increased by 14 percent. Pork production has remained unchanged.

In the Ukraine total feed consumption in hog production has declined 3 percent, while the number of swine increased 4 percent. The quantitative composition of rations also deteriorated. According to the Poltava Scientific Research Institute for Swine Raising, at the beginning of the 9th Five-Year Plan all sex and age groups of swine were supplied with the needed amounts of digestible protein and lysine, while in the 11th Five-Year Plan the various groups' protein requirements were only 75-80 percent satisfied and their lysine needs 57-71 percent met.

There are intelligent limits to the consumption of concentrated feeds in hog production, below which the sector's operations are ineffective. Data from scientific institutions and the experiences of progressive farms show that such feeds should make up at least 80-82 percent of the animals' nutrient intake.

During this same time on farms in the Ukrainian SSR concentrates' share has declined to 74.7 percent. Given such a ration structure and a shortage of protein feeds one cannot count upon high swine productivity. It is no accident that on kolkhozes and sovkhozes in the republic the average daily increase in swine live weight does not exceed 270-280 g, while pork production per initial head is 63 kg live weight.

Farms in a number of oblasts in the RSFSR, the Kazakh SSR and Georgian SSR, where productivity is also low, have high outlays for grain feeds and low percentages (7.5 - 8) of protein feeds in swine rations.

The intelligent use of feeds is possible only if there is an optimal balance between the energy and protein components of rations. High protein feed of vegetable, animal and microbiological origin should account for at least 12 percent of swine rations. This is shown by worldwide experience and the experiences of many farms in the Baltic Republics, Belorussia and Moldavia.

Studies show that the country's farms could produce about 1 million tons (live weight) of additional pork from the grain feeds now being used in hog production.

Hog production cannot be intensified without a fundamental strengthening of the feed base, and, above all, increases in the production of both vegetable and animal protein. Farms must count primarily upon their own raw material resources. The "Protein" Program has been developed at all union republics and there must be unconditional attainment of the intended production volumes of pulse crops, protein-vitamin additives, dried nonfat milk, fish and meat-bone meal and feed yeasts. As is known, these feeds are the basis for full value mixed feeds, without which it is impossible to raise young animals by intensive technology. As it is important to supply young animals with special

mixed feeds, during the 12th Five-Year Plan it is intended to achieve a 10 fold increase in the production of starter mixed feeds for young farm animals.

It is necessary that union republic gosagroproms approve a list of animal farms being converted to intensive technology and of the procedures for supplying them with full valued feeds produced in the republics. Only if constant attention is given to these questions can the planned volumes of pork be produced.

The correct organization of selection work and the rapid introduction of swine breeding achievements into commercial herds are very important for the sector's intensification. Unfortunately, zootechnical and selection work at many farms does not meet modern requirements. Insufficient attention is given to the evaluation of replacement animals with regard to productivity and good reproductive qualities and checking animals for stress resistance. Commercial farms have many complaints about the quality of breeding animals they receive.

Increases in the efficiency of commercial hog production depend first of all upon supplying farms with boars possessing high production indicators and good reproductive qualities. Without detracting from the importance of evaluating boars with regard to the quality of offspring produced at the end of their productive lives, there should be considerable improvements in the evaluation of animals with regard to their own productivity. However, in a number of places this work is being done very slowly.

The control-testing stations and controlled feeding points now available in the country are clearly insufficient. Countrywide, only 18 percent of boars subject to review are evaluated. Up until recently in the Kazakh SSR and in Trans-Caucasian and Central Asian republics state control-testing stations had not been built nor had boar evaluation been organized.

A hog production system is unthinkable without the correct structural and technological relation between the breeding and commercial parts of the sector. Above all, it is necessary to have precise ideas about sow and sire requirements for each oblast and republic.

Reviews show that the gene pool is ineffectively used. Many oblasts and republics haul in large numbers of breeding swine. However, this valuable resource is often not used and does not have an influence upon improving commercial herd productivity. Some managers use breeding animals to supplement meat resources. The necessary procedures in the use of imported animals have not been introduced.

In the Kazakh SSR, for example, on the average during each year of the 11th Five-Year Plan 81 sires were purchased per 100 sows. Even with the very strictest mating this is almost double the norm, not counting farms' own replacement animals. In this republic there have been numerous cases of illegal sales of animals through breeding associations in order to fulfill plans for meat sales to the state.

In 1985 farms in the Kirghiz SSR purchased 123 breeding boars for every 100 main sows. Three-four times more replacement animals than called for by the

zootechnical norms are hauled to farms in the Uzbek, Turkmen, Tajik and Azerbaijan SSR's. This situation can only be due to the lack of control by zootechnical services.

So that selection achievements will be realized in commercial hog production, swine breeding systems based upon extensive hybridization have been developed everywhere. Last year about 35 million hybrid animals were bred in the country. However, in many cases zonal breeding systems are being introduced slowly and year after year production plans for hybrid animals are not fulfilled, recommended crosses of breeds and lines do not undergo extensive production testing and do not have the necessary effect. For example, in the Kazakh SSR 11 combinations of breeds were recommended for crossing. During 1980-1985 hybrid production increased 2 fold and was 41 percent of total offspring. However, the results were unremarkable. Feed consumption per head remained the same, but average daily weight gain for animals on feed remained unchanged at 307 g.

It is necessary to put this work into the required order, take measures to strengthen the material-technical base at breeding farms, staff them with qualified personnel, organize the annual certification of breeding sovkhozes and breeding farms, increase the requirements made upon managers and specialists in breeding services and selection centers to fulfill the comprehensive plan (up until 1990) for further improvements in breeding operations in animal husbandry. The effects from hybridization are quite high and it is irresponsible to ignore this valuable reserve for improving swine productivity.

The intensification of pork production is an immeasurably more complicated process than the extensive path for the sector's development, which, up until recently, has been characteristic of many farms. New approaches to meat production organization are now needed. These should be based upon the more rational use of animals and their breeding qualities, production areas and equipment, feed, labor and other resources.

A comprehensive solution to these questions will make it possible to complete the tasks presented by the Food Program, the 27th CPSU Congress and the June (1986) CPSU Plenum.



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## INTENSIVE TECHNOLOGY IN BEHALF OF GRAIN CROP DEVELOPMENT

Stavropol Kray

Moscow PRAVDA in Russian 15 Jul 86 p 2

/Article by V. Pankratov, Stavropol Kray: "Value of the Harvest"/

/Excerpts/ "The attitude towards the harvest has become more thrifty" stated the 1st secretary of the Stavropol Kray Party Committee I. Boldyrev, "It is the responsibility of the communists and all of the grain growers to ensure that the crops are harvested completely, down to the last kernel. This will be their practical contribution towards fulfillment of the Food Program. As is known, our farms operate on the basis of self-repayment and with no state subsidies. This is a serious step. It forces one to perform in an intelligent and cautious manner, to achieve economies and to prevent losses."

Let us take Kirovskiy Rayon. The highest yields in the kray are being obtained here and it is here that the intensive technology is being employed for growing winter wheat. An average of approximately 40 quintals is being obtained per hectare

In Novoaleksandrovskiy Rayon, the post-harvest residues are being removed from the fields immediately following the grain harvest and thereafter the soil is prepared for sowing.

Fifty three percent of the sowing area in Stavropol Kray is being used for grain crops. These crops furnish 39 percent of the income being realized from field crop husbandry operations. The possibility exists and there is obviously a need for improving results. The areas on which winter wheat is being grown using the intensive technology are being expanded. Compared to 1 year ago when they amounted to 650,000 hectares, the areas have now been increased to 900,000 hectares. But each such hectare is more costly than a conventional hectare. The work may even be ruinous for those who do not prepare thoroughly for mastering the innovation.

In Turkmenskiy Rayon, the progressive method is being employed on 50,000 hectares. But the work is being carried out with many deviations from the agrotechnical requirements. References are always being made to a lack of precipitation. And there has been very little precipitation this summer. But is this the only explanation for the low yields being obtained from the fields

here? The Kucherlinskiy and Stepnoy Mayak sovkhozes applied the least amounts of organic fertilizer to their soil. For them it is clear -- the expenses for the intensive technology preclude any return on their investments.

During the 11th Five-Year Plan, the production of grain in Arzgirskiy, Ipatovskiy and Mineralovodskiy rayons also declined substantially compared to the 10th Five-Year Plan.

The self-repayment plan is based upon thrift and caution. A great deal depends upon the ability to plan practical goals accurately. And certainly, effective norms are needed. Do we have such norms? I addressed the question to the 1st deputy chairman of the kray's agroindustrial committee I. Kablakhov. He admitted:

"There are flaws."

What kind? It turns out that the norms were not developed on a scientific basisand that many defects noted in previous work are being repeated. Moreover, not all of the leaders and specialists are able to utilize them. Thus, they must learn how to do so.

The harvest work is directed by staffs created in the rayons and throughout the kray. They ensure control over the quality of the work and the organization of grain procurements, technical services, repair work and machine operations. In short, everything just as it was in the past. But indeed the Stavropol farms are operating on a self-repayment basis. Each one of them is carrying out current economic analysis on an independent basis and mainly in the absence of staff or RAPO /rayon agroindustrial association/ assistance. And thus it is only rarely that one is aware of the cost of the harvest work, what expenses are involved and how they can be reduced. Lack of information is the sister of extravagance. One after another, powerful motor vehicle trains are advancing over the Stavropol roads. They are heading towards the elevators and grain receiving points. The granaries of the homeland must be supplied with 1,920,000 tons of grain, 80 percent of which will be classified as being of high or the best quality. Such is the socialist obligation of the kray's grain growers. They are fully resolved to fulfill this obligation in an honorable manner.

Krasnodar Kray

Moscow ZERNOVOYE KHOZYAYSTVO in Russian No 9, Sep 86 pp 3-5

/Article by I. Bednarskaya: "Scientific Support for Intensive Technologies"/

/Text/ At the Krasnodar NIISKh /Scientific Research Institute of Agriculture/, a conference was held for the field crop husbandry and plant breeding sections of the Joint Inter-Departmental Council for Important Agricultural Problems of GKNT /State Committee for Science and Engineering/ on the theme: "Scientific Support for the Development and Introduction of the Intensive Technology for the Cultivation of Winter Crops in the North Caucasus Economic Region in Light of the Requirements of the 27th CPSU Congress."

Speeches were delivered during the conference by the following: head of the Department of Farming and Field Crop Husbandry for VRO VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ N.A. Zuyev, director of KNIISKh /Krasnodar Scientific Research Institute of Agriculture/ A.P. Rybalkin,

director of the North Caucasus NII /scientific research institute/ for Mountain and Piedmont Agriculture A.M. Vasilyev, director of the NPO /scientific production association/ for Oil-Bearing Crops and Corresponding Member of VASKhNIL V.M. Pinchukov, chief agronomist of the Krasnodar krayagroprom /kray agroindustrial committee/ A.I. Isaykin, acting head of a laboratory at the Don NPO V.G. Andryukhov, deputy chief for administration of farming for the agroprom /agroindustrial committee/ for the Azerbaijan SSR M.M. Guseynov, scientific workers of KNIISKh -- head of a grain technology laboratory A.T. Kazartseva, head of the Department for Protection of Plants M.I. Zazimko and others.

Last year, in the RSFSR, wheat was grown on 10 million hectares using the intensive technology and this made it possible to obtain approximately 8 million additional tons of grain. This year, 16 million hectares will be employed in this manner. The plans call for approximately 14 million additional tons of grain to be obtained (mainly of the strong and valuable types) through the use of this technology.

It was emphasized during the conference that a worthy increase can be achieved through strict observance of technological discipline.

The intensive technology commences long before a farmer moves out onto a field. In particular, only fields suitable for this purpose can be utilized. It is known that the cultivation of such crops is recommended only for lands having a flat relief. However, this fact is not being taken into consideration on a number of farms, especially in the Volga region and in the north Caucasus. Here a permanent technological track has caused soil erosion to a depth of 60 centimeters or more, right up to the formation of gullies.

Another important factor is the selection of the predecessor crop arrangement. For example, in Krasnodar Kray the proportion of fallow, perennial grasses and peas in crop rotation plans is negligible (200,000-250,000 hectares). Winter wheat is mainly planted following row crops which are harvested late (700,000 hectares). In the kray's northern zone, where the harvesting of these crops coincides with the optimum sowing period, the grain growers are late in tilling the soil. Owing to a shortage of moisture, the farms annually undersow and resow large areas of winter wheat. This is why it is necessary to reduce to a minimum the use of this predecessor crop arrangement, expand the sowings of pulse crops and increase the areas of bare fallow. In Rostov Oblast, the plans also call for an expansion of the fallow areas. In the eastern zone, they must be increased to a level such that in the future all strong and durum wheat can be grown only following fallow.

The plan of the Don NPO calls for the development of an intensive technology for grain forage crops. At the present time, such a technology is already making it possible to obtain a considerable increase in millet and corn grain. When composing the crop rotation plans, the millet should follow bare fallow more closely, since the "peas - winter wheat - millet" plan is not very productive.

In recent years, in the steppe regions of Krasnodar Kray, root rot has caused considerable damage to crops grown following cereal grain predecessor crop arrangements. This was noted on fields sown earlier than the optimum periods or at the beginning of them and in areas where surface tilling of the soil was carried out and where there were unbalanced applications of nitrogen. For

combating this root rot, scientists attached to KNIISKh recommended a technology which includes plowing the soil to a differentiated (by zones) depth, applying nutritionally balanced norms of complete mineral fertilizer, sowing at the end of the optimum periods for the zones (4-4.5 million germinative seeds per hectare) and employing fundozole against Cercosporella rubi root rot. In 1984 and 1985, these methods were tested on farms throughout the kray on an area of 216,000-240,000 hectares. At the Kolkhoz imeni Gorkiy in Tbilisskiy Rayon, for example, 66 quintals per hectare were obtained using this technology and at the OPKh /experimental model farm/ imeni Kalinin in Pavlovskiy Rayon -- 62 quintals per hectare.

The shortfall in grain in the North Osetian ASSR is explained by violations of the crop rotation plans and sowing periods and by low quality soil preparation. Thus, during the 1981-1985 period, not one of the republic's rayons surpassed the indicator for yields for the 10th Five-Year Plan. One reason for this situation -- the growing of wheat following late ripening corn hybrids, which are harvested from 10 October through 1 November. Scientists attached to the North Caucasus Scientific Research Institute for Mountain and Piedmont Agriculture developed a ridge technology for the cultivation of corn, in combination with seed hydrophobization, which calls for the sowing and harvesting work to be carried out 2-3 weeks earlier than usual.

A broadcast method of sowing has been proposed for combating erosion in the North Osetian ASSR. An extensive production check confirmed the promising nature of this method. For the purpose of environmental protection, use was made of the belt method of applying herbicides following a winter wheat (corn, vegetables) predecessor crop arrangement.

In Rostov Oblast, sowing following a cereal grain predecessor crop arrangement resulted in the considerable development of leaf beetles and blight. Naturally, the contaminated plants do not produce strong wheat grain.

The Donskaya Bezostaya and Donskaya Polukarlikovaya varieties, when cultivated using the intensive technology, make it possible to obtain 7-13 additional quintals of grain per hectare. This increase would be greater if the farms did not plan grain crops following a cereal grain predecessor crop: in such instances, the potential of the varieties is not realized fully.

Realization of the high potential of the Partizanka, Olimpiya and Krasnodarskaya 47 varieties is inhibited by the absence of reliable means for protecting the plants against root rot, fusarial ear wilt and septoria spot. For all practical purposes, there are no varieties which are resistant to these diseases. The effectiveness of special measures is lowered sharply by untimely forecasting and by chemical treatment of the plants without taking into account the threshold of damage inflicted. Delays in spraying the crops against blight, for example, lead to a situation wherein the leaf surface, as a result of damage, ceases to "work," the processes of assimilation are weakened and the yields are lowered by 50 percent. And indeed, owing to a disruption in the technology for employing pesticides, the effectiveness of plant protection against root rot and fusarial ear wilt declines and the yields may be lowered by 15 quintals.

The system for protecting winter wheat using the intensive technology assumes the carrying out of 2-3 pesticide treatments. However, they are still not being employed in all areas only following a thorough inspection of the crops in the centers of development of harmful objects. This year, despite the fact that no strong spread of powdery mildew was observed in the North Osetian ASSR, nevertheless the crops on all of the farms were treated. This was wrong: consideration must be given to the threshold of damage inflicted.

The situation is only slightly better with regard to the use of fertilizer: overexpenditures of mineral fertilizer are occurring in all areas. It is known that a quintal of grain requires 6-6.5 kilograms of active NPK agent and yet the actual expenditure is 8-8.5 kilograms. The reason for the over-expenditure -- the fertilizer is not provided during the developmental phases or in the quantities required by the plants. The dosages are for the most part raised, since use is not made of accurate diagnostic data.

Workers attached to KNIISKh have proposed a system of mineral fertilizers and a rational combination of fertilizers for the various zones. The fertilizer is utilized on a differentiated basis depending upon the type of soil, the availability of nutrients in it and the predecessor crop arrangement. The dosages and top dressing norms (early spring and during the shooting phase) are computed based upon the data obtained from soil and leaf diagnosis. Late nitrogen top dressings (also based upon diagnostics data) are employed for obtaining strong wheat grain. Foliar top dressings for plants using a carbamide solution with the addition of 0.01 percent sodium humate are highly effective. In production, this method produced an increase of 3-5 quintals of grain per hectare and in the process the gluten content was raised by 2 percent.

Recommendations are being developed for optimizing nitrogen nourishment; they are based upon all-round diagnostics and the requirements of wheat. At the present time, diagnostic methods are being employed on the entire area on which winter wheat is being cultivated using the intensive technology in Krasnodar Kray. A check is being carried out on the methods for controlling the transformation of nitrogen compounds in the soil, methods which make it possible to reduce the losses of this element. The use of nitrification inhibitors promotes stable and high winter wheat yields, with the norm for nitrogen mineral fertilizer reduced by one third compared to the figure recommended earlier.

It has been established that the use of large dosages of nitrigen fertilizer changes the biochemical structure of soil, lowers the activity of useful microflora, raises the damage inflicted upon plants by powdery mildew, blight and septoria spot and promotes the spread of aphids. In addition to lowering the effectiveness of the intensive technology, all of these factors serve to increase the production cost of grain.

According to data supplied by KNIISKh, use of the intensive technology throughout the kray produced 468,000 additional tons of winter wheat grain. The additional expenditures involved, which exceeded 35 million rubles, were repaid by 113 percent. The labor expenditures for the production of 1 quintal of grain per 0.1 man-hours were greater than those incurred on conventional plantings. The proportion of expenditures for fertilization and for protecting

plants using the new technology amounted to 60 percent and using the generally accepted technology -- 35 percent. In the opinion of the scientists, under the conditions found in the kray the intensive technology can be effective for a winter wheat yield of 45 quintals or more.

What must be done to improve the results being realized from the new technology? Studies on the development of an integrated protection for crops must be continued and a study must be undertaken of the mechanism of pesticide residual effect on biocoenosis, especially new preparations of systemic action. Their low effectiveness is to a large degree the result of poor adjustment of sprayers. No answer has been forthcoming for one important question: what is the economic basis for all elements of the intensive technology?

Depending upon the crop and taking into account the zonal conditions, a detailed study must be undertaken of the norms, dosages and periods for the use of fertilizers.

A high energy-intensiveness for the intensive technology has been noted. An unjustified large number of passes by a unit results in an over-expenditure of fuel. In the near future, the KNIISKh Department of Mechanization will validate a rational structure for units carrying out technological processes, one which will ensure a reduction in fuel-technological expenditures and high quality in the work carried out.

Those who spoke during the conference indicated a need for organizing scientific support for production by zones (within an oblast, kray, republic). Such experience is already available in Rostov Oblast. The model that has been developed for the new technology is being made available at nine base farms which encompass all zones of the oblast, under author's supervision by scientific workers.

A coordination technological center has been created in Krasnodar Kray which unites nine scientific-research institutes in the kray, all of which are involved in the intensive technology for the cultivation of grain crops. This will be of assistance in coordinating the work plan for the kray's scientific subunits for the 12th Five-Year Plan. The plans call for the publication in all zones of methodological handbooks and visual aids for assisting specialists, leaders and machine operators.



## Saratov Oblast

Saratov STEPNYYE PROSTORY in Russian No 5, May 86 pp 16-18

/Article by V.I. Kafarena and V.V. Pronko, candidates of agricultural sciences at the Elita Povolzhya Scientific Production Association/

[Excerpts] Last year, using intensive technology and a technological track, wheat was cultivated in Saratov Oblast as follows: winter wheat on 25,400 hectares, spring soft wheat on 23,000 hectares and spring durum wheat on 66,100 hectares. The average winter crop yield was 26.1 quintals per hectare (13.6 quintals per hectare from conventional sowings); spring soft wheat -- 18.3 and

13.6 quintals per hectare respectively and spring durum wheat -- 13.2 and 11.0 quintals per hectare. The productivity of the grain crops was undoubtedly influenced to a large degree by the weather conditions and the severe winter conditions of 1984-1985. It can also be stated that the greater the amount of moisture available to the plants, the higher the increase in yield realized from the use of intensive technologies. Hence, each soil-climatic zone had its own complex of technological operations, computed for a certain productivity level that could be obtained here.

The data presented in the following table clearly reveals the dependence of the yields upon the availability of moisture in the region of winter wheat cultivation.

Effectiveness of Intensive Technologies in Various Natural Zones in Saratov Oblast

| Район (1) | Степь (2) | Пшеница (3) | По интенсивной технологии (4) | | По обычной, ц/га (7) |
|---|---|---|---|---|---|
| | | | площадь, га (5) | ц/га (6) | |
| (8) Балашовский | черноземная (14) | озимая (16) | 3270 | 37,0 | 21,4 |
| (9) Калининский | черноземная | озимая | 3079 | 26,9 | 22,6 |
| | | яровая твердая (17) (18) | 1100 | 29,6 | 18,0 |
| (10) Петровский | черноземная | озимая | 1800 | 18,8 | 8,6 |
| | | яровая мягкая (19) | 1100 | 18,6 | 12,0 |
| (11) Федоровский | сухая (15) | яровая мягкая | 5847 | 20,1 | 16,1 |
| | | яровая твердая | 2200 | 17,5 | 14,4 |
| (12) Дергачевский | сухая | яровая мягкая | 1560 | 10,2 | 7,9 |
| | | яровая твердая | 12 100 | 11,5 | 7,6 |
| (13) Новоузенский | сухая | яровая твердая | 3354 | 14,5 | 9,4 |

Key:
1. Rayon
2. Steppe
3. Wheat
4. Intensive technology
5. Area, in hectares
6. Quintals per hectare
7. Conventional technology, quintals per hectare
8. Balashovskiy
9. Kalininskiy
10. Petrovskiy
11. Fedorovskiy
12. Dergachevskiy
13. Novouzenskiy
14. Chernozem
15. Dry
16. Winter
17. Spring
18. Durum
19. Soft

Extensive production checks carried out on the intensive technologies made it possible to establish the dependence of yields upon weather conditions and upon the level of farming culture. On those farms where all organizational and agro-technical measures were carried out completely, the results turned out to be considerably higher than the average results for the oblast.

In the spring and summer of last year, many farms turned out to be unprepared for operations involving use of the new method. Nitrogen top dressings were not applied on these farms, nor were measures taken to combat the stink-bug or such a widespread grain disease as brown rust. The leaders and specialists in a number of rayons failed to display timely concern for producing simple solution units for the preparation of tank mixtures of pesticides and an acute shortage of wide-swath sprayers was experienced. The supply organizations were unable to organize the production of these units and devices. Quite often the fertilizers and chemical agents for protecting plants were delivered late to the kolkhozes and sovkhozes, at times when their periods of effective use had already expired. Owing to these factors, there were incidents wherein farms which were co-located and which had the same amounts of precipitation nevertheless experienced sharply differing yields.

In addition to increasing the yields, the use of intensive technologies also makes it possible to improve substantially the quality of the grain. This is the result of fertilization top dressings employed during the period of grain formation and more active suppression of those elements which compete against the plants for nourishment and moisture -- weeds, pests and diseases. Depending upon the region of cultivation and the technology employed, the farms were issued bonuses for the quality of the products obtained in the amount of from 10 to 100 percent of their basic value. In those areas where the integrated system of plant protection was a weak element, the damage to the grain caused by stink-bugs reached 20 percent. Last year, diseases, particularly brown rust, caused a great amount of damage to the crop and to its quality. Highly effective preparations such as bayletone and tilt are available throughout the oblast for combating this disease. However, they are not being employed correctly in all areas. The work of forecasting the spread of pests and diseases has been organized in a very poor manner and thus quite often the work of tending the plants is carried out late and this lowers its effectiveness.

This year the plans call for intensive technologies to be employed in Saratov Oblast on an area of more than 1,200,000 hectares. The following crops are being cultivated on an intensive basis: winter wheat (662,000 hectares), spring wheat (167,000 hectares), millet (300,000 hectares) and corn for grain (100,000 hectares). The plans call for grain production to be increased by 1 million tons and for considerable increases to be achieved in the sunflower and corn yields. A check has revealed that, compared to last year, this situation has improved somewhat with the introduction of the progressive method. In the autumn of last year, winter crops were sown on 662,300 hectares in behalf of this year's harvest, with a permanent technological track being employed on almost one half of this area.

However, the farms in such rayons as Voskresenskiy, Yershovskiy, Saratovskiy and Ivanteyevskiy were unable to fulfill their plans for sowing winter crops using intensive technologies and they did not apply the required dosages of mineral fertilizer to the soil.

An evaluation of the past two years of work involving use of the new method on fields throughout the oblast and an analysis of the experience of leading farms have shown that in the interests of the work the fields should be assigned in a timely manner to permanent brigades and teams which operate on a collective

contract basis. In addition, they should be supplied with the required amounts of equipment, mineral fertilizers, pesticides and other material resources. Only this type of approach for organizing the technological process will enable these structural subunits to carry out the appropriate operations during the best periods and in a high quality manner.

One important task to be carried out on the intensive fields is that of tending the crops in a timely and high quality manner. In order to ascertain the need for carrying out certain measures, the fields should be inspected and a determination made as to the degree of their contamination by pests and diseases. The results of such inspections should be entered in the records maintained for the fields (see STEPNYYE PROSTORY, No 3, 86 p 21).

During the month of May, stink-bugs which hibernated over the winter may appear among the winter crops. If 0.5 specimens of the adult bug and 2 larvae of this pest are observed per square meter, the crops should be treated with an insecticide: volaton 50 percent -- 2 kilograms per hectare, metaphos 40 percent -- 1 kilogram per hectare, metathion 50 percent -- 1 kilogram per hectare.

Brown rust or powdery mildew may appear among winter wheat and winter rye plants. The intensity of their development is dependent upon the degree of humidity. Fungicides are employed to combat these conditions: bayletone 25 percent -- 0.6 kilograms per hectare, fundozole 50 percent -- 0.6 kilograms per hectare, sineb 80 percent -- 3.0 kilograms per hectare, polycarbatsin 80 percent -- 5 kilograms per hectare.

At the end of the tillering phase and towards the commencement of shooting, the sowings of winter crops under cultivation in the oblast's western and northwestern rayons, where more favorable moisture conditions prevail, should be treated with retardants in order to prevent lodging of the plants (winter wheat is sprayed using the TUR preparation in a dosage of 4 kilograms of active agent per hectare -- 6.6 kilograms of the preparation per hectare). The campozan preparation is used on winter rye (50 percent v.r. -- 4 kilograms per hectare with a working solution of 150 liters per hectare).

As a rule, winter crops grown following well tilled fallow are free of weeds. They are not treated with herbicides. However, it should be borne in mind that abundant weed seedlings may appear on the fields if the weather conditions are favorable. In order to destroy them, the wheat sowings should be treated with 1.5 kilograms of ammonium salt 2.4-D per hectare during the tillering phase and towards the commencement of shooting. If the optimum periods for treating the plantings with insecticides, fungicides and herbicides coincide, then they can be employed simultaneously in the form of a single tank mixture, which is prepared immediately prior to being poured into the sprayers.

Winter wheat is given a nitrogen fertilizer top dressing during the period between the end of blossoming and the commencement of milky ripeness in the grain. Sixty five kilograms of urea (carbamide) are dissolved in a hectare norm for the expenditure of water or use is made of plav (a mixture consisting of 44 kilograms of carbamide and 22 kilograms of ammonium nitrate). With foliar top dressings, the assimilation by plant leaves of nitrogen from fertilizer takes place over a period of 3-4 hours. If the weather is warm and dry, then

the solution evaporates rapidly from the surface of the leaves and the top dressing does not produce the desired effect. Thus it should be carried out at a time when the air temperature does not exceed 22° Centigrade.

During the grain formation period for winter crops, dangerous pests appear -- corn weevil and chinch bug -- which not only lower the grain yield substantially, but also have a negative effect on the grain quality. In order to suppress their numbers, the plantings should be treated with an insecticide solution. This work is carried out when there are two larvae of the chinch bug or 3-5 corn weevils per square meter. Upon the appearance of new generations of the pests, the spraying of the plantings with insecticides is repeated.

Grain fleas may develop in spring wheat plantings during the seedling and tillering phases. They are followed in the plantings by specimens of the stink-bug which hibernated over the winter. During the tillering-shooting period, depending upon the prevailing moisture conditions, brown rust or powdery mildew may appear on the leaves of spring wheat plants. The same preparations used for winter wheat are employed against these pests and diseases.

An active campaign against weeds must also be waged in spring wheat plantings. Wild oats poses a special danger. Here use is made of a herbicide of selective action. Suffix (carakhol, benzoylpropetil) are applied in a dosage of 1-1.5 kilograms of active agent per hectare during the period from the appearance of 2-3 leaves in the spring wheat to the commencement of shooting. During this same stage of development, use can be made of illuxan (dichlophon-methyl) in a dosage of 1.1-1.5 kilograms per hectare, which in addition to wild oats also suppresses Japanese barnyard millet quite well. The greatest results are realized from the use of illuxan during the period when the mentioned weeds have 2-6 leaves. During the tillering of the wheat, wild oats can also be destroyed using the herbicide suffix BV (flampropizomer) in a dosage of 0.4-0.6 kilograms of active agent per hectare. Dicotyledonous weeds (amaranth, goosefoot, sowthistle) can be suppressed using ammonium salt 2.4-D (0.8-1.0 kilograms of active agent per hectare).

During heading and grain formation in spring wheat plantings, a foliar top dressing of nitrogen fertilizer is applied and a campaign is waged against brown rust, grain beetles and stink-bugs. The preparations and the conditions for applying them are the same as for winter wheat. When the periods for applying a top dressing and employing pesticides, fertilizers and chemicals coincide, a single application consisting of a tank mixture can be employed.

On millet fields, a campaign against weeds commences during the pre-sowing period with timely and high quality working of the soil. During the phase of 3-5 leaves to the commencement of tillering in the millet, a chemical treatment is applied to the crop against dicotyledonous weeds using ammonium salt 2.4-d in a dosage of 0.8-0.9 kilograms of active agent per hectare. The crops are sprayed during the best periods, with the proper dosages being observed and with the herbicide being distributed in a uniform manner. Chemical treatments during the hot period of the day should be avoided, since this results in curling up of the millet leaves. In the event of mass propagation of a complex of pests on a millet field, the plants should be treated with an insecticide in the recommended dosage.

An equal amount of work must be carried out in connection with the tending of corn for grain and sunflowers. Upon the appearance of weed sprouts ("white threads") in corn plantings, pre-seedling or post-seedling harrowing is carried out crosswise or diagnoally to the rows. In the case of sunflowers, 3-4 days after sowing and prior to the seedling stage. When carrying out this agricultural method, every attempt should be made to ensure that the plants are not pulled up or covered over with soil. The optimum speed of movement for the unit is 3.5-4 kilometers per hour. During the phase of 3-5 leaves of corn, ammonium salt 2.4-D (0.8-1.0 kilograms of active agent per hectare) is employed for destroying the seedlings of dicotyledonous weeds. Subsequent tending of the corn and sunflower plantings consists of inter-row treatments, which are carried out as the weeds appear. During the first inter-row cultivation, the protective zone must equal 8-10 centimeters from each side of the row. In the case of corn, the first cultivation is carried out with weed control harrowing, which "combs out" the weed seedlings in the rows. The second and subsequent cultivations are carried out using cultivators, on the lateral knife blades of which special mouldboards have been installed for covering over the weed seedlings in the rows with a layer of soil 2-3 centimeters in depth. The depth of the inter-row cultivations must on the average amount to 5-6 centimeters and if use is made of chisel-shaped working organs -- 8-10 centimeters.

It must also be remembered that sunflowers, more often than corn, are damaged by leaf-chewing pests (beet pest, steppe cricket, beet webworm, aphids, cutworms and others). Insecticides are used for suppressing them.

These then are the principal methods employed for tending crops cultivated using an intensive technology. The strict observance and timely carrying out of these methods will make it possible to increase substantially the productivity of the plants and to create a reliable foundation for carrying out the state tasks for the production of agricultural products during the 12th Five-Year Plan.



7026
CSO: 1824/079

## MOSCOW OFFICIAL ON PROJECTED REFORMS IN SERVICES SECTOR

Moscow IZVESTIYA in Russian 17 Nov 86 p 3

[Interview with A.V. Surovtseva, head of Moscow's Public Domestic Services Administration, by L. Savelyeva: "Forget the Word 'No': Here Is What Is Demanded of Domestic Services Today"; date and place not given]

[Text] The UBON [Public Municipal Services Administration] of the city of Moscow includes about 3,000 different enterprises with a total of 42,000 employees (the municipal services, tailoring and clothing repair administrations exist independently and are not part of UBON). Included are more than 600 types of services of all kinds that serve 400,000 Muscovites and visitors to the capital daily and earn 68 million rubles of profit for the city budget annually. This, of course, means a mass of problems and questions requiring urgent solutions. The Complex Specific Program of "Domestic Services" in the city of Moscow for the years 1986-1990 and for the period through the year 2000 that was just confirmed by the Moscow City Committee of the CPSU, the Moscow Gorispolkom, and the Ministry of Consumer Services of the RSFSR directly establishes the task of bringing about a fundamental improvement in the work of the capital's domestic services. Our correspondent spoke with A.V. Surovtseva, head of Moscow's UBON.

[Question] Anna Vasilevna, let us begin our conversation from an interesting paradox. On the one hand, the administration is continually, from year to year, increasing the volume of services performed, is stably overfulfilling the planned indicators, and is producing considerable profit. That is, it is a quite favorable picture. On the other hand, there is the obvious dissatisfaction of Muscovites with the work of domestic services. We have a contradiction, the essence of which is obviously primarily the fact that the existing economic indicators are obsolete and are actually playing the role of a trick mirror: they are misleading and distort the true situation. The economy of the services sector is still governed by the same notorious striving for gross output and quality or content is somewhat displaced, even though it is the main criterion for evaluation. It is the main one but it turns out to "carry no weight" economically. Is it not so?

[Answer] Yes and no. It is all more complicated than that. If, let us say, a particular complaint about poor quality of service (and this may be the untimely or poor fulfillment of an order, an unjustified refusal to accept an

order or, finally, simple rudeness) is valid, than we take the most serious measures--from the deprivation of bonuses to dismissal from work. Or, for example, working this year under new conditions of management, many of our collectives kept up only because the economic incentive fund depends precisely upon quality. It is no accident that the number of complaints has declined sharply.

[Question] As everyone knows, individual measures eliminate only individual shortcomings. Can it be that the complaint is the only "measure" of quality? You must agree that it is a very unstable and subjective indicator: not everyone will write a complaint and the complaints themselves are not always justified--not to mention the fact that this indicator has no relation to economics....

[Answer] You are right in that today there is no strictly economic indicator of "quality" in the sector. Such an indicator is needed, of course, and here one cannot get along without the help of competent economists. Life itself raises this question. You mentioned the economic "prosperity" of our administration. We are not experiencing any satisfaction on this account: today quantity and quality are in irreconcilable conflict and the overall level of domestic services for Muscovites does not meet contemporary demands. On the one hand, the assortment of services that we are proposing is far from what is needed: things are not going well with the repair and preparation of nonstandard furniture, model footwear, leasing property, finishing new settlers' apartments, etc. Unfortunately, the list can be continued for a long time. These and other new types of services must be developed actively and much more energetically than is now the case. On the other hand, and this is also obvious, Moscow has lost its lead in recent years for many of the 600 kinds of services that we have. It is enough to say that our city is in 10th place among the capitals of the union republics in the level of domestic services. What is comforting about that?

[Question] But what are the reasons for this?

[Answer] As always, there are many reasons and they are all interrelated. The city has grown and is growing not by the day but by the hour. But the attitude toward domestic services remained unchanged over a period of many years, as if they were something secondary, unserious, or from the "others" column. We are harvesting the fruit of past mistakes. Judge for yourself: the number of workplaces in the capital's services amounts to 70.2 percent of the standard. The working conditions are difficult. I have in mind inadequate premises and specifically equipment, for in general labor in the services area is not easy. Naturally, they did not attract the best specialists. The best ones were precisely those who sought to leave; the ones who came were those who saw in the services field opportunities for fast and easy personal gain. Irresponsibility, misconduct and the lack of control--as a result of which wages became modest additions to "under-the-counter" earnings--also all took place over years and formed domestic services in their own way. More accurately, they deformed them. In addition, there is certainly no other such sector that would be so affected by scientific-technical progress: old, antediluvian equipment and an abundance of manual labor--in general, frequently primitive production. The realization of the

program, as the bureau of the Moscow City Committee of the party especially stressed, requires a decisive increase in the scientific-technical level of our sector. Materials and equipment supply is a continuing sore point. If leather is supplied to our workshops, it is invariably black or brown in color and you can be sure that the quality is the very worst. The customers are indignant but at whom? At domestic services, of course. And rightfully so, for what concern is it of the customer if the domestic service has long tried in vain to get good sound raw material, suffering no less than the customer from such "quality" supplies? There are so many examples that we are tired of talking about this subject. Take spare parts. Is it not paradoxical that the plants issuing particular electrical appliances categorically refuse to supply us with spare parts for repairs? There are no funds for spare parts through Gossnab--but who has to answer to the customer? Again, it is we. Do not get me wrong: I am not bringing all this up as a means of self-justification, saying that we are good and someone else is bad, but with one purpose only: it is necessary to change attitudes toward domestic services. Everything has to change, from the plant issuing the keys but "forgetting" to deliver prefabricated parts for repair services to the planning organizations and the Moscow Gorispolkom, which allocated 300 square meters of housing annually for a collective of 42,000 workers. And we are therefore very glad that a special specific program has been adopted: it will now be simpler for us to obtain what is needed.

[Question] Anna Vasilyevna, you must agree that domestic services must make many direct changes among themselves and in their subdivisions.

[Answer] Change may be too cautious a word. Demolish, for there is no time for vacillation. We are talking about a fundamental improvement in domestic services. I repeat, fundamental. We face very complex tasks. In this five-year plan alone, we must incorporate 65 new types of services; the overall volume of domestic services performed will increase by a factor of 1.4, moreover, let me emphasize in particular that these are services paid for by the public. Their relative share is now 82.4 percent. It is not a matter of talking about it but of actually achieving balanced service; this qualitative and quantitative growth can occur only through an increase in labor productivity. The main task can be defined thus: to establish a maximum of conveniences for Muscovites and to make their daily life comfortable and up-to-date. Domestic services must forget the word "no" and are obliged to react to demand quickly and efficiently, demonstrating resourcefulness, flexibility and mobility. New tasks must not be resolved using the old methods. That means that it is necessary to give each collective an economic interest in high-quality and efficient labor. Precisely an economic interest, so that it is favorable to the state and the customer and becomes advantageous for the specific worker in domestic services. That is, so that the interests of all sides coincide.

[Question] And are there specific real variants?

[Answer] There are. Above all the energetic introduction of new forms of organizing labor, contractual forms that promote an increase in the responsibility of the collective and the stimulation of initiative and more self-reliance. These new forms are attractive primarily because the

collective becomes the real master of its own work and because the wage is directly tied to the final result of the work and "wage equalization" disappears: for as everyone knows, fairness does not mean that all workers receive the same wage but that they do not receive the same wage fairly. We have no other way than that of full cost accounting, a more flexible and active utilization of commodity-money relationships, and efforts to overcome immobile economic dogmas. A second contractual form was introduced in the jewelry workshop at Kuznetskiy Most and within a week the master craftsmen turned to the trade union committee with the request that they be allowed to work without a lunch break. Can this be explained by rubles alone? Or perhaps it was primarily because the people felt that were in control and began to think about how to do the work better?

We will gradually proceed from complete cost accounting at the lower levels to cost accounting in the associations and administration as a whole. Independence, self-financing and self-compensation are what all general directors of the associations are constantly talking and dreaming about. Beginning in January of next year, we will transfer several associations to full cost accounting.

[Question] Only some of them?

[Answer] It is said that if you want to kill a good idea, compromise it. Thus, we would not want any mistakes. Everyone is talking about independence but not all are ready for it economically or psychologically. The first certification of directors recently took place in the administration. The conversation was frank and--why dodge the issue? It did not suit everyone. For, whereas some are indeed living according to the times, others are playing at it. The situation is no different in the collectives. It is understandable that one cannot in one swoop put a stop to years of inertia and that some are adept at reorganizing themselves so that everything remains as it was. Some are simply indifferent and this is also acting against wholesome changes. The roots of stagnation and indifference are strong, as are the ways of inertia. The struggle of ideas, moral principles and, if you will, world views is not always open but is vigorous and the old ways do not give up without a fight. It is necessary to release the energy bound up by irresponsibility, unbelief and the pernicious force of habit; it is also necessary to find the courage to recognize openly the situation as it is. The accent on honest and high-minded people is what now distinguishes the reorganization in the domestic services of the capital. It is necessary to establish an atmosphere in which it will be more difficult to be crafty than to work honestly.

[Question] Anna Vasilyevna, in the Moscow mail of IZVESTIYA, one encounters curious proposals on the organization of domestic services cooperatives, in favor of which scientists, economists and other specialists have repeatedly spoken out. The cooperative service will force the state domestic services to pull up their quality and, on the other hand, will help them in those numerous services to which "the hand does not yet reach." How do you relate to this idea?

[Answer] There have recently been heated debates in the administration precisely on questions involving the organization of cooperatives. I can say firmly that the first cooperatives for domestic services in Moscow will appear next year. The state form of providing service cannot be the only form if we truly want to achieve the full and comprehensive satisfaction of all the individual's vital needs. "Supernumerary employees" in the state domestic services, or "spare-time workers," have long been providing an example of work that is flexible, prompt and sensitive to changes in market demand. If they are organized in an intelligent way and provided with tools and materials (today they are getting all that illegally) and if their work is controlled, having made official, of course, all of the corresponding economic and legal relations with the state, then everyone can only gain. In general, I must note that we all need to learn to think and act in an up-to-date manner, renouncing stereotypes that are dear to many only because they guarantee a quiet life. After all, what is new always involves some risk. I know that some see those same domestic service cooperatives almost as a threat to socialism. But why is that? There have long been two forms of ownership in agriculture and no one sees "sedition" in this. In my opinion, work under contemporary conditions means to think, seek and learn using the arguments of successes as well as mistakes.

9746
CSO: 1827/21

## DETAILS OF UKRAINE MINE DISASTER REPORTED

LD252015 Moscow Domestic Service in Russian 1830 GMT 25 Dec 86

[Text] As we have already announced, a gas explosion has taken place at the Yasinovskaya Glubokaya mine in Donetsk Oblast. Our special correspondent Gennadiy Kandaurov has just phoned the office from Makeyevka. Here is what he reports:

[Kandaurov] A methane explosion at the Yasinovskaya Glubokaya occurred at 1100, at the height of the working shift, at a coalface 600 m below the surface. A multiskilled body of miners was working at that time: Coalface workers [rabochiye ochistnogo zaboya], equipment assembly specialists and tunnelers who were preparing development workings. Mine rescue teams arrived immediately at the scene of the accident. Additional rescue manpower was brought in from mining towns in Donetsk and Voroshilovgrad Oblasts. The rescue work was made more difficult by a fire in the mine workings that broke out after the explosion. The teams that arrived to eliminate the accident dispalyed a high degree of skill and courage. They had all the necessary equipment and quickly extinguished the fire. All the casualties were efficiently brought to the surface. They were given the necessary medical treatment. Unfortunately, however it was not possible to save everyone.

A state commission headed by Aleksandr Pavlovich Lyashko, chairman of the Council of Ministers of the Ukrainian SSR, is now working at the mine. The causes of the accident are being investigated. Help is being given to the families of those killed and injured. Restoration work is now under way at the mine. Water is being pumped out of the coalfaces [zaboyev]. The mine workings are being ventilated by a strong jet of air. Everything is being done rapidly to eliminate the consequences of the accident.

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CSO: 1822/052

## VICTIMS OF MINE DISASTER MOURNED, MINE OPERATING

LD261836 Moscow TASS in English 1810 GMT 26 Dec 86

[Text] Donetsk 26 December TASS--A methane explosion at the Yasinovskaya Glubokaya mine in the Ukraine on 24 December caused loss of human life. The population of the industrial centre of Makeyevka are mourning the victims of the accident.

Rescue operations were mounted efficiently. A team of rescue workers arrived at the mine within 10 minutes after the alarm had gone off. But even before their arrival, fellow workers had extended a helping hand to the accident-hit miners. Grigory Zakirov, head of the mining rescue station, led an electric locomotive through a cloud of dust and smoke. He shortly brought back three injured miners to the shaft. Meanwhile, rescue workers approached the accident area. It took a team led by Ivan Zinkevich 20-25 minutes to quench the flames which had spread to machinery. Other rescue workers broke through the fire and, risking their lives, blocked the spread of poisonous gas in the mine.

Dozens of people helped lower into the mine the equipment needed to fight the accident while others took it to the disaster area. They were members of the miners' volunteer rescue team. The fire was put out in 3 hours.

On 25 December, the mine went back into operations. Rehabilitation work is being carried out in the accident-stricken area.

"No other section of the mine was affected," Aleksandr Lyashko, chairman of the Council of Ministers of the Ukraine, who heads a governmental commission, told journalists. "Inspection and prophylatic work has been done there and the mine is now operating normally. All those affected by the accident have got relief. No one has been left unattended."

The commission continues to investigate the causes of the accident.

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CSO: 1822/052

ELECTRIC POWER GENERATION

## TASS NOTES SHORTAGE OF ELECTRICITY PRODUCTION

LD212212 Moscow TASS International Service in Russian 1450 GMT 21 Dec 86

[Text] Moscow, 21 December (TASS)--TASS correspondent Vladimir Leonidov writes:

Soviet power engineering workers are ushering in their professional holiday feeling that they have accomplished a task which was not easy. It is celebrated each year on 22 December. According to estimates by the USSR Gosplan, the yearly target of 1,605 trillion kwh is even going to be outstripped by early January, although that has demanded the maximum mobilization of forces.

The work this year had to be carried out in conditions when the output of electric power at nuclear plants was well short of the expected level owing to the accident in Chernobyl. Because of the shortage of water in the rivers of Central Asia, where a considerable number of hydropower stations are concentrated, the total output by the country's GES' has also fallen short of the target.

It has been possible to account for the losses by intensifying the work of the thermal power stations, whose effort in coping with maximum loads has been facilitated by prompt deliveries of fuel by collieries and mines. By the end of the year, the miners had recovered 15 million tons of above-plan coal.

Over the year, the power potential of the country has grown by almost 9 million kw. The first unit of the Perm thermal power station, which in due course will become one of the most significant in the Urals (4.8 million kw) has been put under industrial load. Major thermal power facilities in Siberia, Belorussia, and in the north of the country have become operational. The capacity of a number of the existing power plants has been boosted with the introduction of new units.

At the same time, as was noted at the recent session of the USSR Supreme Soviet, the industry is in need of serious reconstruction. Thus, for instance, power units with the total capacity of about 25 million kw have to be modernized in the course of the 5-year plan, and the outdated uneconomical equipment has to be replaced. Through that, and also through implementing power-saving technological processes, the fuel consumption at thermal power stations is to be cut sharply.

/12232
CSO: 1822/051

ELECTRIC POWER GENERATION

## GOSPLAN OFFICIAL DISCUSSES WINTER PRESSURES ON POWER INDUSTRY

PM131840 Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Jan 87 p 1

[Interview with A. Troitskiy, chief of the USSR Gosplan Power and Electrification Department, by correspondent L. Telen: "Power System: Cold Weather Test"; first paragraph is editorial introduction]

[Text] This is not the first day that the mercury in Moscow thermometers has not risen above minus 20 degress. There are frosts in the Ukraine, the Baltic republics, central Russia, and the lower Volga. And, of course, particularly severe frosts in Siberia, the Urals, and the Far North. But the figure of 50 hertz is being maintained steadily on an electric display board set up in the USSR Gosplan Power and Electrification Department. That is the frequency of the current in the USSR's Unified Power System. Specialists know that this figure is the best testimony that power workers are worthily standing up to this winter's tests. Our correspondent L. Telen met with A. Troitskiy, chief of the USSR Gosplan Power and Electrification Department.

[Telen] There is no denying that last year, 1986, was a difficult one for Soviet power generation. The Chernobyl tragedy, the drought in Central Asia, where there are many CES', the fire at a GRES in Azerbaijan.... How did power workers manage to cope with the difficulties and greet the cold winter weather fully armed?

[Troitskiy] Yes, hard trials fell to the power workers' lot. The Chernobyl AES was totally inoperative for 5 months, and its third and fourth reactor units have been mothballed. In addition, since the tragedy additional work has been carried out to ensure safety at other AES'. Of course, the country's power generation encountered a whole number of difficulties when the accident happened. I will not hide the fact that we did not succeed in solving those questions in full during the first months after the accident. The power quality, for example, and, in particular, the current frequency indicator deteriorated noticeably. However, the situation stabilized as early as the beginning of October, that is, long before the onset of the cold weather. However, I wish to point out that even on the worst days the fluctuations in current quality were so insignificant that they did not affect the working of equipment, and not a single machine, including very "capricious" computers, went out of commission through the power workers' fault.

Yes, there was also the fire at the Azerbaijan GRES and the drought in Central Asia, but those sad events did not affect the state of affairs in the country's Unified Power System. And we achieved that thanks to the prompt and competent connecting up of all reserves.

[Telen] Just what reserves do you mean, Artem Andreyevich?

[Troitskiy] Above all, the capacities of thermal electric power stations, which we succeeded in utilizing for the maximum return. Also the GES' in the European part of the country are working uninterruptedly and not falling behind the plan.

[Telen] The Western press, particularly of late, has repeatedly voice assumptions that Soviet power generation compensated for its losses by abandoning summer preventive reparis to equipment in thermal electric power stations and GES'. The American WALL STREET JOURNAL, for example, claims that.

[Troitskiy] An absurd claim! Of course, such an idea might have occurred to someone during the feverish activity of the first days. But such decisions are not made in haste. And a sober and calm calculation convincingly proved that the power stations would not last the winter without preventive reparis to equipment. Therefore, summer preventive work was carried out in the same volumes as in previous years. And the country's power stations are working normally today in the severest frosts.

[Telen] Does this mean that we can consider that the power workers' greatest difficulties are already behing them?

[Troitskiy] Let us hope so.... Although it would be arrogant to say that all is ideal in the country's power generation. It is necessary both to enhance production discipline and to improve labor organization. And there are plenty of other problems, albeit not so acute ones. It is extremely necessary to solve them. Under the cold winter conditions now, for exmaple, power stations quickly eat into their fuel stocks. However, the State Committee for the Supply of Petroleum Products already owes power workers hundreds of thousands of metric tons of fuel oil. The Ministry of Railways is holding up the dispatch of fuel for power stations. Unfortunately, having overcome the greatest objective difficulties, we still cannot cope with the unobliging nature of these departments. Whether we power workers will be able to pass the test of strength now depends directly on them.

/12232
CSO: 1822/051

## BRIEFS

IL-62M MOSCOW-MAPUTO SERVICE--"It has become much more convenient to fly" -- thus can one summarize the comments of passengers who completed the intercontinental flight over the Moscow-Maputo route in the Il-62M liner that replaced the Tu-154 aircraft which serviced the line until now. It was opened 10 years ago and continues to play an important role in expanding Soviet-Mozambique cooperation. The new liner overcomes the distance from the European part of the USSR to the south of Africa with one landing in Aden instead of the four which its predecessor made. Now, passengers spend only 14 hours travelling -- three hours fewer than before. [By L. Shinkarev, IZVESTIYA correspondent in Mozambique] [Text] [Moscow IZVESTIYA in Russian 10 Sep 86 p 5] 8802

YaK-42 MOSCOW-VILNIUS SERVICE -- Vilnius (ELTA) -- Yesterday, the YaK-42 made its first regular trip from Vilnius to the country's capital, Moscow. Having replaced the less spacious Tu-134, it transports 120 passengers in one trip. The ladder is contained in the aircraft itself. That is why passengers do not have to wait until it arrives. During the flight, electronics regulate the pressure in the cabin, and the low take-off and landing speed does not cause any unpleasant sensations. Baggage shipping security is assured -- it can be taken with one or packed in special containers. Only three pilots fly the new aircraft. A digital computer has assumed the duties of the navigator. It selects the shortest route and permits fuel to be used rationally. In the future, YaK-42 routes from Vilnius will be expanded and reach Yerevan, Sochi and other cities in the country. [Text] [Vilnius SOVETSKAYA LITVA in Russian 21 Oct 86 p 2] 8802

AIRPORT PLANNED FOR SUDAN -- Yerevan -- Sevan is a favorite place for the workers of Armenia to rest. The buildings of holiday hotels and holiday homes and resorts have risen on its picturesque banks, and the berths of yacht clubs and water resorts extend along them. Now, passenger trains and express trains deliver guests to this wonderful nook. Soon, however, it will be possible to get here by air. Specialists in the design and estimate group of the Armenian administration have begun to design an airport on the lake's bank. It will have a terminal and a runway with a hard pavement to receive An-28 aircraft. It has been decided to build a strong base here for airplanes and helicopters in agricultural aviation. The design work is being done with a consideration for the interests of the national park which is being established in the preserve.

During the summer, airplanes will link Sevan not only with Yerevan but also with Leninakan, Stepanavan, Goris and other cities in Armenia. The time spent travelling will be decreased 10-fold. [By VOZDUSHNNYY TRANSPORT correspondent G. Pogosov] [Text] [Moscow VOZDUSHNNYY TRANSPORT in Russian 23 Oct 86 p 1] 8802

EKIBASTUZ AIRPORT SIGNIFICANCE -- Alma-Ata (TASS) -- The aviators of Kazakhstan have arrived at an important stage in the development of the air communications network in the republic. Having connected the oblast centers with direct flights from Moscow and Alma-Ata, they have begun to build modern airports for the local lines -- in large industrial cities. The first of them has been commissioned in Ekibastuz -- the center of the largest fuel and energy complex in the country. It will be able to accept liners of the first class. N. Kuznetsov, chief of the Kazakh Administration of Civil Aviation, has said: "Direct flights to Moscow and Alma-Ata will contribute to the very rapid social development of the young city whose population has grown twofold during the last 10 years alone and now exceeds 130,000 people. The most rapid transport -- air -- will contribute to the stream of youth for the construction of new power stations and housing microrayons and the coal opencast collieries that are in sharp need of working hands. At the same time, the delivery of watch brigades, specialists travelling on business, urgent freight, and mail will be accelerated. You see, it was necessary to use the airport at Pavlodar before." The building of similar ground aerial complexes is also being provided for during the present five-year plan in the centers of the Caspian oil-and gas-bearing provinces -- in Tengiz and Karachaganak -- which are being intensely developed based on a decision of the 27th CPSU Congress. [By V. Cherkizov] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 23 Oct 96 p 1] 8802

AEROFLOT, LUFTHANSA AIR AGREEMENT -- On 28 October, B. P. Bugayev, USSR minister of civil aviation, received W. Dollinger, FRG minister of transport. An exchange of opinions on the basic questions in cooperation between the USSR and the FRG in the area of air communications occurred during the meeting, based on whose results a protocol was signed. The positive nature of air cooperation, which is being carried out on the basis of an international agreement dated 11 November 1971, was pointed out with satisfaction by both sides. The ministers expressed confidence that the agreed program for expanding regular flights by Aeroflot and the West German airline, Lufthansa, between the USSR and the FRG during 1987-1991 would contribute to the further development of bilateral aviation bonds on a mutually beneficial basis. It was agreed that the aviation authorities and designated aviation enterprises in both countries would work on an agreement concerning cooperation in the area of air transport safety. An understanding about studying existing possibilities for expanding scientific and technical cooperation between Aeroflot and Lufthansa was reached. [By a VOZDUSHNYY TRANSPORT informant] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 30 Oct 86 p 1] 8802

OSH AIRPORT UPGRADED -- Osh -- our airport is the second air harbor in Kirgizia (after the republic's capital, Frunze) which will operate around-the-clock. Active preparations for this important stage in the production activity of our aviation workers have been begun: Air Traffic administration specialist have

a training course and a number of organizational measures have been undertaken. The shift to a qualitatively new stage in operations (the airport can be used as a reserve airport at any time of day) is connected with another event that is important to us: Local aviators are preparing to operate the Tu-154 airship (they are now flying in YaK-40, An-2 and Mi-2 airplanes) in cooperation with the Frunze Aviation Enterprise. This will significantly expand the radius of flights and increase passenger service standards. M. Yermenbekov, a Yak-40 aircraft commander; V. Sivovolov, co-pilot of that same aircraft; M. Mirzaganiyev, senior flight engineer of the air crew; and B. Mamadzhanov, flight engineer, were the first to be sent to Ulyanovsk to master the new equipment. [By E. Mamoshoyev, a driver] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 4 Nov 86 p 1] 8802

L-410 SERVICE FROM RYAZAN -- Ryazan -- Ryazan aviators have begun regular passenger trips in the recently received L-410 airplanes to the cities of Gorkiy, Kazan and Kharkov, The time, which the passengers spend travelling, has been reduced by almost twofold. G. Krachenko, the commander of the flight collective, and pilots Yu. Golovin, S. Mitrofanov and N. Koshkin were the first to master flights in the equipment which was new to local aviation enterprises. There are also problems. One of them is incomplete loading. Evidently, the inhabitants of Ryazan and the oblast have still not "switched over" to the services of the more comfortable airplane. There is something for everyone, who is primarily responsible for increasing the productivity of the flights, to think about here. [By M. Yangibayev, deputy commander for political affairs of the flying subunit] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 13 Nov 86 p 1] 8802

I1-62 FLIGHT TO YUZHNO-SAKHALINSK -- Yuzhno-Sakhalinsk, 13 [Nov] -- an I1-62 airplane has landed for the first time at the Yuzhno-Sakhalinsk airport, it had completed a trip over the Khabarovsk-Yuzhno-Sakhalinsk route. It was a technical trip. Except for the employees of the Far East Administration of Civil Aviation, there were no passengers on board the airliner. The trip should have answered the question of whether a local airport could receive a multi-ton aircraft. [By part-time PRAVDA correspondent V. Ryabchikov] [Text] [Moscow PRAVDA in Russian 14 Nov 86 p 6] 8802

## CONFERENCE STUDIES WEST SIBERIAN TRANSPORT NEEDS

Moscow VODNYY TRANSPORT in Russian 23 Oct 86 p 2

[Article by Yu. Goleshchikhin, chief of the ship facilities service of the West Siberian River Shipping Company: "A Scientific Practical Conference"]

> [Text] The first All-Union Scientific Practical Conference on Problems Involved in Developing New Types of Transport in the West Siberian Region, which was organized by the USSR Gosplan and by the council to accelerate scientific and technical progress that is attached to the CPSU Tomsk Obkom, has been held in Tomsk.

A wide range of questions connected with developing a single transport system in West Siberia based on the introduction of new types of transport and with improving the management of the entire transportation process, was discussed during the conference.

Representatives of the transport ministries and the leading scientific research, design and construction, and production organizations and workers in the management and planning system participated in the conference.

The following questions were examined: accelerating the development, production and introduction of new types of transport that would satisfy the special conditions in West Siberia; justifying a long-range schedule for the development of the transport system in this region; and improving the system for managing the development of all elements in the region's transport complex in balance with its requirements.

The speakers pointed out that the level of the equipment, which has been built, permits the solving today of important national economic problems. In general, however, the scope and rates of practical implementation in this area do not satisfy the requirements of West Siberia's national economy. The reasons, which are delaying progress in transport, were mentioned: the absence of the required coordination in the development of tranditional and new types of transport; interdepartmental disconnections in performing design, scientific and research work; the insufficient interests of the transport ministries in introducing new types of transport equipment; and the poor quality preparation of specialists for the new types of transport.

The small rivers, which have been called upon to play a special role, are still not being used sufficiently. The fleet for small rivers, which exists in the shipping companies of the Ob-Irtysh basin, has become physically and morally obsolete, and its replenishment with new vessels is being carried out slowly and insufficiently. A transport technological schema for shipments on small rivers and programs to improve route conditions on them do not exist. Year-round navigation is also required. However, it is possible only with the help of vessels using air cushions.

Recommendations were adopted by the conference participants based on the results of the discussions that took place.

8802
CSO: 1829/65

## VOLGA FLEET URGED TO RELIEVE RAIL SHIPMENT BURDEN

Moscow IZVESTIYA in Russian 4 Nov 86 p 2

[Article by A. Yershov, IZVESTIYA special correspondent in the cities of Gorkiy and Saratov: "The Volga Is Asking For Work"]

[Text] The article "Rail Car-Berth" (People's Control Page No 17 (503), 1985) said that the rail-river transport junction in Saratov and the city of Gorkiy was operating poorly. Little freight for transfer to the water had arrived in the river ports due to the unsatisfactory work of the railroad workers. As a result, a paradoxical situation had taken shape. Quite a few ships were travelling on the Volga half-empty and, at the same time, various national economic freight was moving in a parallel fashion along the bank. The railroads were literally choking and were not able to cope with their primary shipments.

The editors received official replies to the article from the different departments and organizations. A.Dudin, the former deputy chief of the Railway Traffic Main Administration in the USSR Ministry of Railways, reported that the facts, which were cited in the article, had actually occurred. In connection with certain difficulties with the supplying of rail cars, the loading of coal in the port of Gorkiy was accomplished below the plan that had been coordinated with the RSFSR Ministry of the River Fleet. This led to its excessive accumulation.

Furthermore, the reply said that, although the transshipment of freight to rail transport is being carried out in the port of Saratov above the schedule, its transference to the water is being done lower than the plan.

Here is what I. Shchepetov, the chief of the Volga Amalgamated River Shipping Company, says:

"We are striving in every possible way for close cooperation with the railroads. During the first nine months of this year, we transferred more than a million tons of different freight in addition to that planned from the water to the rails. However, the trouble is that the railroad workers did not systematically fulfill even their considerably reduced plans for transshipping freight from the rails to the water and, thereby, placed the river workers in a difficult position. Whereas they failed to supply us with 65,000 tons of cargo

during the first six months of the year, this debt grew to 141,000 tons during the first nine months."

When you sail the Volga on a motor vessel, the smoke stacks of local cement plants are visible long before Volsk. The enterprises, which are included in the Volsk Cement Association, have been repeatedly reconstructed and their capacities have grown. However, they have not been concerned about the expansion of berths at the plants, although it is much more profitable to send their products using the inexpensive waterways. Thus, only one of the three existing berths has been adapted for loading. It is no accident that the Volsk Cement Association only sends a third of its 3.4 million tons of production by water.

Meanwhile, the expenditures on reconstructing the berths in Volsk would be repaid rapidly and many-fold. However, the RSFSR Ministry of the Construction Materials Industry, to whom the Bolshevik and Krasnyy Oktyabr plants that are located here are subordinate, has not allocated resources for the construction of berths during the present five-year plan, although special decisions have been repeatedly adopted on this score.

The article "Rail Car-Berth" cited the following fact: They recently constructed a modern river port in the city of Balakovo. A large grain elevator and a modern crushed rock quarry exist in the neighborhood. However, here is the trouble -- they "forgot" to lay a rail spur here. That is why much cargo is sent from here by motor transport -- a distant and round-about way.

Why has such a useful matter not moved from dead center? It turns out that, at one time, they planned to construct a rail spur using "shares". However, at the last moment the former USSR Ministry of Procurement, which had been entrusted with assigning allocations for the designing of the spur, pulled out from the so-called "game". True, beginning in 1985, the Ministry of the Railways is the customer for the construction of this branch in accordance with a decision by the USSR Gosplan. However, it is clearly not hurrying and is dragging out the preparation of the required documentation.

Ya. Bebeshko, chief of the Saratov Grain Product Administration, says:

"The capacities of the Balakovo elevator are not being fully used, although it can receive grain not only from the oblast's rayons but also from neighboring Kazakhstan and Kuybyshev farms. However, it's as if the elevator is still in 'a blind alley.' If it had an outlet to the Volga and to a river port, motor vessels with a carrying capacity of 5,000 tons could load grain here."

I met with Ye. Zlobin, deputy director of the Saratov Industrial Glass Plant, from whom I again heard arguments that it was allegedly impossible to send glass by water. They say that it would go bad on the way. They load their products for their numerous customers, part of whom -- incidentally -- are located on the Volga, only on trains, annually using almost 1,500 cars for this purpose.

The real reason, however, is something else -- it is necessary to assemble a special device or to set in motion a "revolving-door" from the enterprise to the port in order to transfer the products to water. You see, however, this involves unnecessary trouble and concerns, and it looks very much like they stepped aside long ago at the enterprise and are operating in the old way.

In a word, there are quite a few reserves in Saratov for increasing shipments by inexpensive waterways; however, inertia and the lack of a desire to reorganize in a new way and to operate effectively with a benefit for the state, are interferring.

During the past, some improvement has been noticed in the work of the Gorkiy river personnel. Thus, whereas they did not receive sufficient rail cars last year, 3,700 rail cars in addition to the plan were earmarked for them during the first six months of this year. This permitted the transshipment of freight in ports to the railroad to be increased. Nevertheless, quite a few problems remain unsolved. The article "Rail Car-Berth" talked about the unnecessary transshipment of coal that arrives by water from Rostov Oblast for the Igumnovskaya TETs [Heat and Electric Power Station]which is located close to the city of Dzerzhinsk on the Oka.

The reply to the editors signed by Ye. Bogachev, deputy chief of Soyuztsentratomenergostroy [All-Union Center for the Construction of Nuclear Energy] in the USSR Ministry of Power and Electrification, contained promises to correct the situation with the starting up of a new berth on the Oka. What happened in fact? Some sort of berth was started up, but with such imperfections that it cannot be used normally even now.

The authors of the majority of replies to the editors agreed with the criticism that had been addressed to their departments and organizations and provided various types of protestations; however, practically speaking, the situation with respect to the mutual relations between the river workers and the railroad workers has changed little.

From the editors. In the article "Rail Car-Berth" and in this article, we are talking about those freight streams whose transfer from the railroad to the river is of undoubted benefit to the state. The transfer itself is a troublesome matter that requires definite expenditures. In individual cases, it may turn out that its cost exceeds the difference between the tariffs for rail and water shipments. This means that it is necessary in each specific case to be able to consider and-- only after a serious economic analysis-- select the most beneficial shipping way and method.

8802
CSO: 1829/65

## GOSPLAN OFFICIAL CHARTS 12TH FYP VEHICLE, ROAD DEVELOPMENT

Moscow AVTOMOBILNYY TRANSPORT in Russian No 1, Jan 86 pp 1-3

[Article by V. Karpunenkov, deputy chief of the transport section USSR Gosplan, honored economist of the RSFSR, candidate of economic sciences: "Motor Vehicle Transport and Roads in the 12th Five-Year Plan"]

[Text] As the scale of production increases and it becomes more specialized, as eastern and northern regions of the country are opened up, and as the population grows and its living standard increases, the requirements of all sectors of the national economy for freight and passenger shipments increase substantially.

Compared to the 10th Five-Year Plan, the national economy's freight turnover in the 11th Five-Year Plan increased 12 percent and was 485 billion ton-km. This included an increase of 22.5 percent in agriculture, 9 percent in common carrier, and 9 percent in departmental transport.

Compared to 1980, the passenger turnover in common carrier buses increased by 14 percent in 1984 and was 434 billion passenger-km, with 45.6 billion passengers transported. Bus service was set up in 2,464 cities and towns. There were 39,200 suburban and 22,500 interurban routes opened. Taxi operation was set up in 1,705 cities and towns. During 1984 there were 9.5 billion paid kilometers. Fixed production capital of common carrier motor transport increased by 32.5 percent during the 5-year period and is now 16.3 billion rubles.

The CPSU Central Committee and the USSR Council of Ministers adopted important decisions on improving the planning and organization of freight shipments and passenger transport, increasing the efficiency of transport usage in the national economy, regulating the use of departmental buses, intensifying the struggle with registrations, and conserving fuel and lubricants and so forth.

Implementation on the party and government decisions on improving material and technical support and regulating the financing of the development of road management has made it possible to develop road construction at higher rates. At the start of 1985 the length of general-use highways was 975,000 km, including 793,000 km (81 percent) of paved highways.

Compared to 1980, the delivery of basic material resources for highway construction in 1985 increased nearly twofold for petroleum asphalt, 1.6-fold for cement, and 1.9-fold for rolled ferrous metals. Supplying petroleum asphalt for repair work improved considerably. In 1985 union republics were allotted 2.2-fold more asphalt compared to 1980. This made it possible to provide regional centers and central farmsteads of kolkhozes and sovkhozes with a reliable motor transport linkage. This work was completed in the 11th Five-Year Plan in the Ukraine, Lithuania, Kirghizia, Tajikistan, and Estonia. It is nearing completion in Georgia, Latvia, Moldavia, and Armenia.

A coordination council on questions of repair and maintenance of highways was created under the RSFSR Ministry of Highways in 1980, whose work has made it possible to improve the organization of road repair and maintenance. Domestic industry has set up production of modern machinery for restoring asphalt and concrete pavements and also "Unimog" type base machines. The USSR Gosplan and USSR Ministry of Finance have established norms for material and monetary expenditures for highway repair and maintenance. In 1984 the USSR Gosplan approved the General Model for Development of State and Republic Roads.

All this contributed to developing the network of general-purpose highways. In the 11th Five-Year Plan 71,000 km of roads were built, including 8,100 km of state and republic roads.

During the past 5-year period, the country's motor vehicle transport and road management developed considerably. However, there are still many unused reserves.

The draft Basic Directions of Economic and Social Development for the Years 1986-1990 and for the Period to the Year 2000 noted that in the forthcoming 5-year period our country must cover the same path it covered during the 68 years of its existence. Fulfillment of this goal in the forthcoming period will require acceleration of social and economic development, overall intensification and an increase in production efficiency based on scientific and technical progress. The main task facing transport workers is the timely, qualitative, and complete fulfillment of the transport needs of the national economy and the population and an increase in the economic efficiency of the sector.

Motor vehicle transport holds a considerable place in the overall volume of shipments. Virtually any transport process begins and ends with motor vehicle shipments. In 1984 it accounted for more than 82 percent of the total freight shipment volume in tons, 44 percent of the passenger turnover, and about 92 percent of passenger transport.

Measures are outlined in the 12th Five-Year Plan for further increasing the share of common carrier motor transport. In 1984, motor transport accounted for 25.6 billion tons of the 31.5 billion tons of freight hauled, including 6.4 billion tons or 24.8 percent for common carrier motor transport and 19.2 billion tons or 75.2 percent for departmental motor transport.

The significant volumes carried by departmental motor transport, including interurban shipments, are forced since common carrier motor transport under

the jurisdiction of union republics is not interested in carrying them out. This forces the ministries and departments to develop their own transport operations, usually small and unprofitable.

As of 1 January 1985, 72 percent of the motor transport operations had up to 25 motor vehicles. These operations do not have the proper accounting of transport work and fuel and lubricants, and motor vehicle usage is inefficient.

Union and union-republic ministries and departments carry out motor vehicle shipments using their own transport without proper coordination between themselves and common carrier. This results in mass freight shipments over great distances, including two-way, inefficient hauls, increasing from year to year. The administrative steps being taken are not yielding the proper results. According to expert estimates, the number of departmental motor vehicles involved in interurban shipments reaches nearly 1 million. Inefficient use of transport vehicles and labor and material-technical resources adversely affects development of the national economy and production costs.

In order to eliminate the abnormal situation which has been created in the country it is necessary to create a single centralized agency for managing motor vehicle common carrier transport which could take over all mass interurban shipments and also shipments of other freight (in addition to intraquarry, intraplant, and production freight), which will help to eliminate small, unprofitable departmental transport operations.

Another way to eliminate small, unprofitable departmental transport operations is to transfer them to the common carrier motor transport system. The Georgian SSR can serve as an example in solving this task. In June 1984 they decided to transfer the departmental truck transport of Khashurskiy Rayon to the motor transport association of the Georgian SSR Ministry of Motor Transport. The results of operation during the period since then show that the efficiency of motor transport work has increased substantially: indicators of motor vehicle usage have improved; shipment costs and consumption of fuel and lubricants have decreased; conditions have been created for lowering the number of workers and the wage fund. Preliminary calculations show that incorporating this experience throughout the republic will enable the existing motor vehicle fleet to carry an additional 40 million tons of freight per year. In 1985 this experiment spread to four other rayons in the republic.

The Basic Directions of Economic and Social Development of the USSR for the Years 1986-1990 and for the Period to the Year 2000 states: "increase the efficiency of motor transport usage primarily through widespread use of trailers and semitrailers and reducing unproductive idle time, empty runs, and unpractical shipments. Develop and improve centralized shipments. Ensure priority development of common carrier motor transport... Increase freight shipments by 18-19 percent and passenger turnover of the common carrier bus fleet by 14-16 percent."

The 12th Five-Year Plan projects a 19.1 percent increase in the tonnage of freight shipment by motor transport of the national economy, a 21.6 percent increase in freight turnover, and a 15 percent increase in passenger turnover by 1985.

The relative share of common carrier motor transport in the total freight turnover of the national economy during the years of the 11th and 12th five-year plans should increase from 30.4 percent in 1980 to 38 percent by 1990. Furthermore, the increase in the volume of common carrier transport work should be ensured between 1986 and 1990 by material-technical resources through new deliveries of motor vehicles, buses, and trailers and also by transfer from sectors of the national economy. At the same time, common carrier motor transport workers must do much to increase the quality of servicing customers. It is obvious that transport servicing must be raised to such a level that ministries and departments consider it economically inexpedient to set up and develop their own departmental motor transport. There should not be "profitable" and "unprofitable" freight for common carrier transport. This is the essence of its operation.

To increase the standards of servicing the population and the volume of services, there are plans in the 11th Five-Year Plan to build and put into operation bus fleets in Leningrad, Cherepovets, Vladivostok, Neryungri, and Cheboksary and service stations in Moscow, Arkhangelsk, Smolensk, Ufa, and other cities and industrial centers.

A priority task for motor transport workers of the national economy is to conserve fuel and energy resources, meaning primarily to carry out the measures called for by the resolution of 5 August 1983--to improve the system of accounting for and distributing petroleum products, increasing the efficiency of motor vehicle usage, and developing a technical base for servicing and repairing fuel equipment.

In the 12th Five-Year Plan we have to implement resource-conservation measures, above all for economy and lowering proportionate fuel and energy expenditures for transport work, and create more economical rolling stock, including motor vehicles operating on gas and diesel fuel.

The Basic Directions state: "Improve the structure of the motor vehicle fleet. In 1990 bring the percentage of freight turnover accomplished by motor vehicles with diesel engine to 60 percent. Significantly expand the use of compressed gas vehicles and speed up construction of gas-refueling stations.

"Ensure an 18-20 percent savings in gasoline and diesel fuel in 1990 compared to 1985."

Converting the motor vehicle fleet to diesel engines and increasing the freight turnover of motor vehicles with diesel engines from 36.3 percent in 1980 to nearly 50 percent in 1985 and to 60 percent by the end of the 12th Five-Year Plan will make it possible to save about 5.4 million tons of fuel in motor transport of industrial sectors alone.

In the 12th Five-Year Plan we must carry out the major intersectorial task of converting motor vehicles to compressed natural gas. This problem can be successfully resolved provided that the Ministry of the Gas Industry and construction organization fulfill the plan for putting gas-filling compressor stations into operation and also for construction of points for inspecting gas cylinders and fuel systems of compressed-gas vehicles.

A bottleneck holding back the development of motor vehicle transport is the structure of the truck fleet, namely the shortage of low-capacity vehicles up to 2 tons, large-capacity tractor-trailer rigs (8 tons and over) for intercity hauling, multipurpose trailers and semitrailers, and specialized rolling stock (refrigerator trucks, tankers, vans, container carriers). Today, due to the shortage or lack of low-capacity trucks, consigners are forced to use large-capacity trucks for carrying small freight consignments; they cover the under-utilization of the carrying capacity by listing unfulfilled shipments.

The existing structure of the motor vehicle fleet is not helping to reduce consumption of fuel and energy, labor, and material resources. Thus, for an efficient structure in 1990 it is necessary to have in the national economy's fleet more semitrailers per tractor, which will make it possible to increase the efficiency of transport vehicle usage.

A major problem which will be resolved in the 12th Five-Year Plan in motor transport is the implementation of measures for the economy and efficient use of labor resources. We know that motor transport is a labor-intensive sector in which several million workers are employed. At the same time, labor resources are not always used efficiently; trucks stand idle during loading and unloading operations up to 40 percent of the operating time.

In order to save labor resources it is necessary to make broader use of combining jobs on small and mid-size service buses, on passenger cars when hauling mail, on repair operations (gas, electricity, communal services, and such), and on low-capacity trucks when hauling small consignments of food and commercial freight (nurseries, rest homes, sanatoriums, and such); make broader use of turn-around semitrailers in order to make more efficient use of the working time of drivers; also increase the level of mechanization and reduce manual labor on labor-intensive operations. Motor transport workers have considerable grievances towards the motor vehicle industry, including the question of accelerated development of modifications of trucks and buses operating on gas fuel and on a gas-diesel cycle.

For leading development of motor transport common carrier it is envisioned to increase the amounts of capital investments by 1.62 billion rubles and construction and installation work by 256 million rubles, i.e., by 17.6 and 36.4 percent respectively, compared to the 11th Five-Year Plan.

In the 12th Five-Year Plan we have to implement measures directed at complete and efficient use of capital investments allotted for development of motor transport common carrier. It will be necessary to convert motor vehicle repair enterprises to the assembly method and review proportionate capital investments for construction of motor transport enterprises, meaning to shift the repair of assemblies completely to repair enterprises, retaining only

daily maintenance, technical servicing, and routine repairs of motor vehicles at the motor pools.

The draft Basic Directions call for putting into operation about 75,000 km of roads during the 5-year period, compared to 71,000 km in the 11th Five-Year Plan, and to build and repair 167,000 km of paved highways, including 92,000 km of rural roads.

Taking into account the immediate need to fulfill the quotas of the Food Program, for the purpose of creating stable motor transport links in rural areas, including organizing regular bus lines to central farmsteads of kolkhozes and sovkhozes, the main task for improving the state of road management in the 12th Five-Year Plan must be the further development of the network of oblast and local highways while maintaining construction and renovation of state and republic highways at established levels.

In order to speed up development of a network of general-use highways in the RSFSR, on 1 August 1985 the CPSU Central Committee and USSR Council of Ministers adopted the resolution "On Additional Measures for Development of General-Use Highways in the RSFSR during 1986-1990," which determined the basic tasks for the five-year plan for the road workers of the Russian Federation. The resolution called for basically completing by 1990 the building of a base network of main highways providing reliable motor vehicle service between major economic regions and populated areas.

On the whole, to satisfy completely the demands of the national economy and the population for motor transport shipments (especially for agriculture and rural population) and to eliminate major losses from lack of roads, it is necessary to complete by the year 2000 the organization of services for the network of general-use highways, create a base network of main highways, and provide populated areas of the country with service to central farmsteads of sovkhozes and sovkhozes.

At the same time, it is necessary to renovate paved general-use highways and make them conform to the requirements of motor vehicle traffic and the developmental trends of the motor vehicle fleet. This assumes improving the geometric parameters of the roads, implementing measures to increase traffic safety, gradually replacing transitional surfaces with improved surfaces, improving the structure of the network for allowable axle loads, and improving signalling on roads and services for motor vehicles, drivers, and passengers.

The forthcoming five-year plan requires research, designing, and organization of production of machines and equipment at industrial enterprises of the highway sector for mechanizing labor-intensive operations in construction, repair, and maintenance of highways and man-made structures on them.

In order to save labor resources, it is important to ensure introduction of advanced forms of labor organization based on work by quotas, brigade contract, technically justified output norms, above all for workers whose wages are based on a time rate, combining jobs, and model projects of labor organization in sections.

Widespread discussion of the draft Basic Directions will contribute to successful fulfillment of the tasks of the 12th Five-Year Plan and further development of our country.



12567
CSO: 1829/69

 UDC 629.113:658.62.018

# METHODS FOR IMPROVING VEHICLE PRODUCTION QUALITY

Moscow AVTOMOBILNAYA PROMYSHLENNOST in Russian No 8, Aug 86 pp 1-3

[Article by Doctor of Technical Sciences A. V. Proskuryakov and A. V. Nefedov, Moscow Electronic Equipment Institute: "The Quality of Automotive Equipment: Material Stimulii For Progress"]

[Text] One of the most important tasks, which permeates all of the decisions of our party's 27th Congress, is the task of sharply increasing work quality in all links of the national economy and of each Soviet individual at each work site. The Congress devoted enormous attention to such an aspect of this problem as increasing the quality of products produced by the machinebuilding branches, including the automotive industry. That is why all of the branch's enterprises are purposefully and steadfastly solving the problem of quality in automobile equipment and other items at the present time, understanding under quality the totality of their consumer qualities: reliability, durability, productivity, cost, maintainability, maintenance costs, etc. In this respect, special attention is being paid to the technical level, manufacturing quality of items, the search for solutions that would assure these indicators, including economic incentives that would accelerate scientific and technical progress.

The experience of the VAZ [Volga Motor Vehicle Works] is indicative in this regard. As is known, in accordance with the experiment that is being conducted here to expand the enterprise's economic independence in stimulating the workers to the qualitative manufacturing of motor vehicles and spare parts for them, it is planned to create a fund formed from five-percent deductions from the wholesale price of the motor vehicles and a 10-percent deduction from the wholesale price of the spare parts which are delivered for export. Thus, this fund stimulates deliveries for export but has practically no effect on the quality in the manufacturing of motor vehicles for the domestic market because the volumes of these deliveries are practically not connected either with the Seal of Quality or with the volume of certified products. That is why the VAZ economic services are performing work to improve the system for stimulating the output of high quality products that are intended not only for export but also for the domestic market. An economic mechanism, which would make the output of obsolete and ineffective products especially non-remunerative and which would strengthen the influence of the consumer on the technical level and quality of products being produced, is being developed. For these purposes, it is suggested that the amount of expenditures for the guarantee maintenance of motor vehicles be used.

As is known, a change in the expenditures for the guarantee servicing and repairing of motor vehicles, just as for any other product, now affects an enterprise to a very small degree: Of the 13 articles on expenditures that determine the structure of its cost, expenditures for guaranteed servicing and repairs are only included in one -- "Other Production Expenses" which additionally includes deductions for centralized and technical propaganda, standardization and scientific research work. That is why, even in the event of an increase in expenditures for guaranteed servicing and repairing of the produced product, a plant may not exceed the "Other Production Expenses" article because of a decrease in the other above-mentioned components. (Practically speaking, it is advantageous for a factory to set as large an amount as possible for this article at the beginning of the production of a new product so that it can modify its components in the future).

When dividing expenditures among the economic elements, expenditures for the elimination of defects, losses from rejects and guaranteed servicing and repairs are regarded as "Other Monetary Expenses".

Such a division of expenditures, which are included in the cost, clearly does not stimulate the enterprise's struggle for product quality. It also does not at all stimulate the immediate executives (shop workers): A change in the expenditures for guaranteed servicing and repairs has no effect on shop costs. In addition, it lowers the activity of workers in the shop control bureau: In the final analysis, they -- the same as those in the shop -- are only interested in handing over products from the shop and thereby assuring the fulfillment of the plan in volume and nomenclature. It is possible to say the same thing about the Technical Control Department in the works.

Moreover, even in the event of preserving assets allocated to the article "Other Monetary Expenses", the works -- practically speaking -- does not lose but acquires them: these assets are shifted to the article "Wages" because expenses for services during the period of guaranteed servicing are, to a significant degree, the wage fund for workers in the area of services that are carried out through the "firm" network.

Unfortunately, this is an economic paradox. If one takes into account that expenditures for guaranteed servicing are growing and already form a significant percentage of the wage fund with the growth in the complexity of technical items, then it becomes clear that it is necessary to change matters. For example, it is advisable to list the assets, which have been obtained by reducing expenditures for guaranteed servicing -- when compared with the planned level -- in the fund for material incentives to improve the quality in manfacturing products, that is, by a special purpose designation because the principle of payments based on final results, which has well proven itself in general, nevertheless does not stimulate quality because quantitative results (amount and nomenclature) are essentially the final results. The transfer of profits from reducing expenditures for guaranteed obligations will spread the principle "of final indicators" to qualitative indicators.

It appears that the technology for this transfer will not be a complicated one. It is sufficient to provide and earmark an article entitled "Expenditures for Eliminating Defects, Servicing and Repairing During the Guarantee Period of Operating a Motor Vehicle" in the expenditure estimate. This article must, without fail, be included in shop costs and form the fund for expenditures to eliminate the defects assumed by the plan. In order to obtain high quality of the products prepared by their subunits, enterprises need funds for expenditures to eliminate defects, which are assumed by the plan, and to stimulate quality and grant bonuses for long-range work to insure quality. All of them are forming a fund for expenditures to insure the quality of produced products. The formation of the fund must be carried out with a consideration for the preliminary planning of specific expenditures to insure the quality of items during the guaranteed operating period. When doing this, its planned amount must be calculated for a definite period of time. Actual expenditures to eliminate defects are determined during this same period. The difference between the plan and actuality also provides the size of the funds to stimulate and award bonuses for quality.

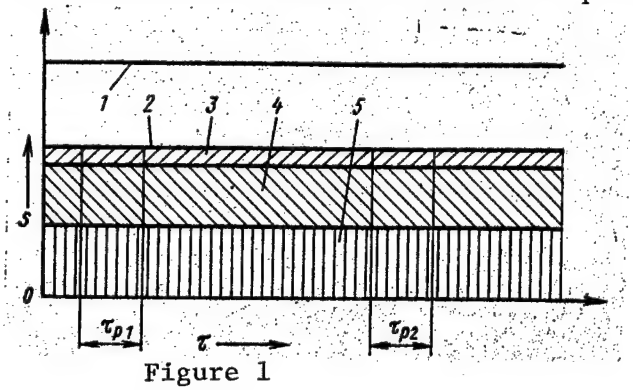

Figure 1

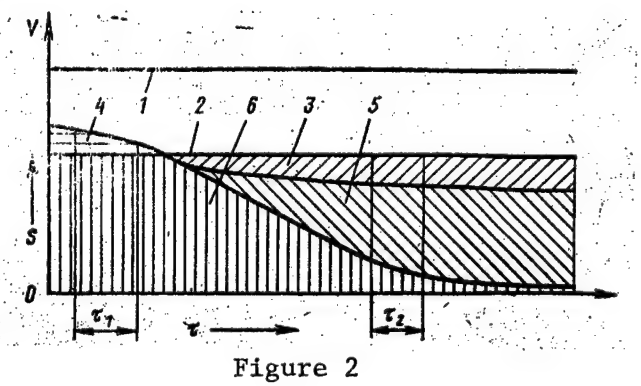

Figure 2

Everything, which has been said, can be illustrated by Figures 1 and 2. The first one of them shows the planning production costs (1), the fund for expenditures to insure product quality (2) and its components: the planned bonus fund (3), incentives (4) for quality and for eliminating (5) product defects, in the "expenditures-time" coordinates. Figure 2 gives the planned basic production costs (1) the fund for expenditures to insure product quality (2) the actual funds for bonuses (3) penalties (4) and incentives (5) for quality, as well as the actual expenditures (6) to eliminate defects using the same coordinates.

As is seen from Figure 2, the actual expenditures during some period of time can exceed (zone 4 on the diagram but this, of course, is not obligatory) the planned fund for expenditures on quality. Naturally, the difference must be compensated for by the economic incentive fund. The economic consequences of this compensation is punishment for poor product quality.

The overall functional model of the system for insuring the high quality of motor vehicles (and of any other end product) is given in Figure 3. It demonstrates how the fund for expenditures to insure quality is formed.

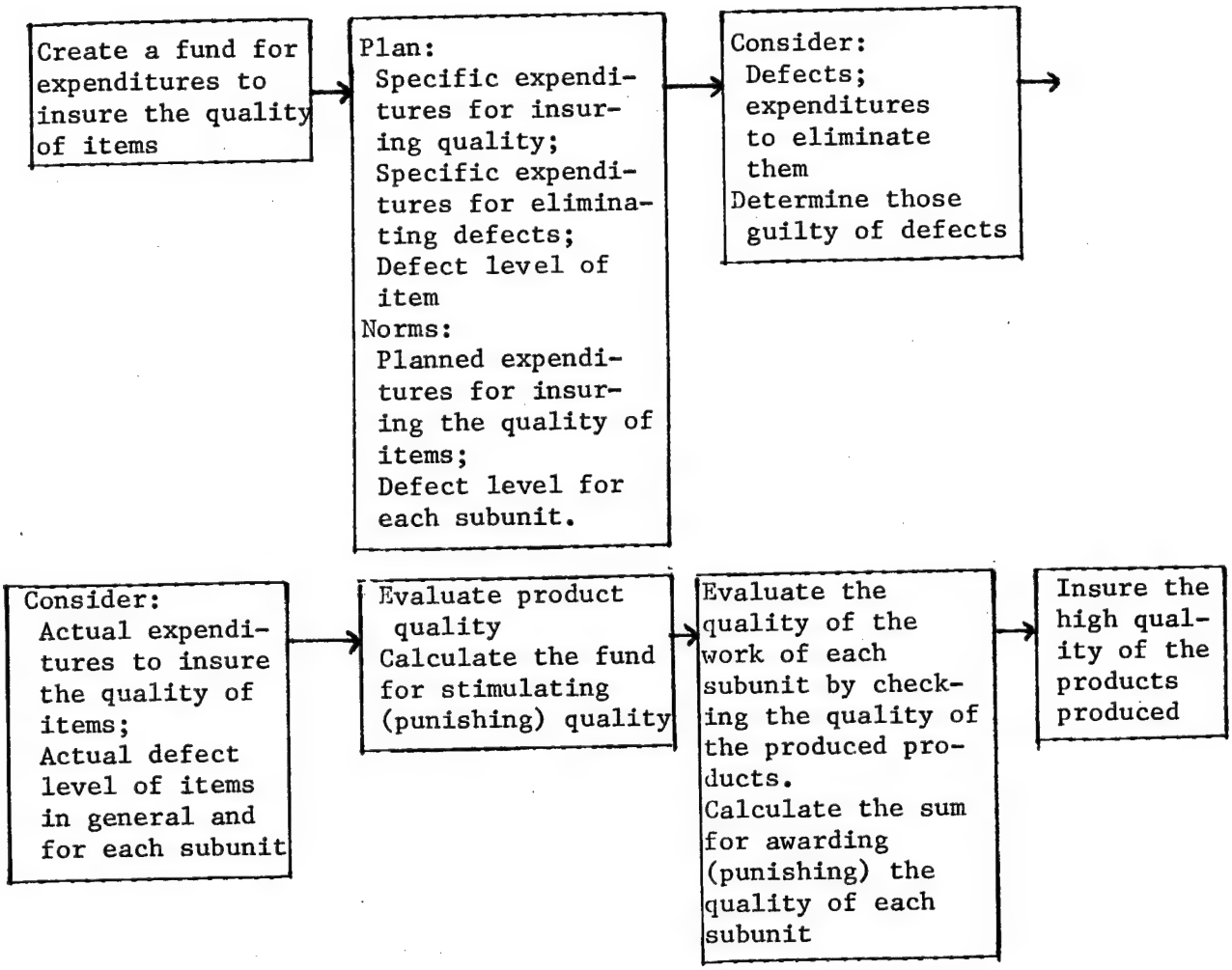


Figure 3

The algorithym of material stimulation of the quality of the final product produced by the enterprise's subunits, evidently, is most interesting. That is why we will examine its elements which have not been earmarked in the overall functional model of the system.

1. Planning. During the guarantee period for servicing items, specific expenditures to insure product quality and eliminate defects (including those during receipt and handing-over testing) and also the admissable level of defects are planned. Funds for expenditures to insure product quality, eliminate defects, stimulate quality, and award bonuses for long-range work to insure quality are planned during any accounting period.

2. Distribution of planned expenditures to insure product quality to the enterprise's subunits. This is done in accordance with the percentage participation of each subunit in the formation of the quality of the final product (by a coefficient that takes its participation into account). As a result,

norms are set for each subunit: specific expenditures for eliminating defects during the guarantee period, but for any accounting period -- funds for expenditures to eliminate defects and stimulate quality and also for the assumed level of defects in the items.

3. Accounting for the origin and elimination of defects during receipt and handing-over testing and during the guaranteed servicing of complicated technical items. It is done with the mandatory determination of those guilty of the origination of defects.

4. Calculating actual expenditures for eliminating defects and insuring quality, funds for stimulating and rewarding for quality, specific expenditures for insuring quality and eliminating defects as well as the defect level is done based on data about the recorded defects and the amount of the guarantee pool of items. In this regard, the deviation between the actual and planned amount during the accounting period is evaluated.

5. Tables, in which a change in product quality: it has improved, remained at the planned allowable level, worsened, is reflected, are compiled in order to evaluate product quality based on the results of the guaranteed operation and work quality of each subunit.

6. The analysis of product quality determines the type of incentives (awarding of bonuses and the revocation of bonuses): if the product quality of subunits is worse than the planned level, bonuses are not paid; if the product quality is no worse than the planned level, a bonus is paid in an amount equal to the sum of the incentive fund and the difference between the planned and actual specific expenditures to eliminate defects.

7. The analysis of the causes for the origin of defects. It permits management to have an influence on product quality, including by adjusting the coefficient of the subunit's participation in the formation of quality.

It is evident that this approach must compel each collective and each individual to try to work harder and, consequently, decrease expenditures on eliminating defects because the sizes of the funds for stimulating and rewarding product quality will depend on this.



8802
CSO: 1829/7

UDC 658.62.018:629.113.002

# QUALITY IMPROVEMENTS STRESSED FOR MOTOR VEHICLE INDUSTRY

Moscow AVTOMOBILNAYA PROMYSHLENNOST in Russian No 10, Oct 86 pp 1-3

[Editorial under the rubric "The Decisions of the 27th CPSU Congress--Into Reality!": "A Sharp Turn in Quality"]

[Text] The large-scale task of improving the quality of product output, set forth by the 27th CPSU Congress, today is at the center of attention of state management agencies, ministries and departments, and labor collectives of scientific organizations and production enterprises. The importance of this task does not require any special proof. It affects the basis of economic operations of virtually all sectors of the national economy, is directly linked to the vital interests of the Soviet people, and is one of the most important sources of replenishing resources for increasing the prosperity of working people. The question has been raised in such a manner as to ensure already in the 12th Five-Year Plan a marked increase in the quality of the entire production potential and to satisfy more completely the demands of the population for high-quality consumer goods conforming to modern tastes.

The foundation of the sharp turn towards quality is the machine building complex. As was noted at the June (1986) CPSU Central Committee Plenum, the chief problems of the rapid growth of our economic system are concentrated in its sectors. Output of reliable, productive machines and equipment, the transition to progressive technologies, equipping production processes with modern instruments, devices, and tools--all of these are necessary conditions to obtain goods in strict accordance with GOST requirements, specifications, and design and technical documentation.

The output of the motor vehicle industry has a great influence on the work of many sectors of the economy, the production relations between them, and the level of everyday services of the population. The higher the quality and reliability of motor vehicles, the better their economy, and the fewer expenditures they require for operation and maintenance, the more effective this influence is. The output of ZIL (Moscow Motor Vehicle Plant imeni Likhachev), MAZ (Minsk Motor Vehicle Plant), VAZ (Volga Motor Vehicle Plant) and certain other plants enjoys well-deserved prestige.

However, the quality situation generally does not meet the new requirements. Recently the USSR State Committee for Standards identified major shortcomings

in observing production discipline, the work of metrological services, the attitude of technical subdivisions towards the problem of quality at the "RAF" Microbus Plant imeni 25th syezda KPSS, the Lvov Motor Vehicle Plant, the Frunze Motor Vehicle Assembly Plant, and a number of other enterprises of the sector. Here a gap has developed between the calls for struggling for quality and real deeds and organizational and technical measures. In the drive for good indicators, some administrators have buried in oblivion the absolute requirements of standards and documentation and have not contributed to the prestigious position of control services in production. The psychology of searching for excuses in place of concrete actions to raise quality has grown stronger.

It is impossible to calculate precisely the financial losses caused by the production of low-quality goods. This includes the millions spent on production of spare parts for repair and maintenance needs, the large expenditures for maintaining a broad network of repair shops, certain breakdowns in the rhythm of production complexes, as well as the need to maintain a large quality control staff. Behind all this stand human and material resources, and the consumer goods involve large financial costs for marking down obsolete and outdated goods. We must also consider the moral damage which low-quality goods inflict on Soviet people. Responsibility for observing technical requirements and state standards is lost and preconditions are created for imitation and admiration for foreign equipment, although there are no objective reasons for this.

Now the situation is beginning to change. Major economic, technical, and organizational steps have been outlined by the recently adopted decree of the CPSU Central Committee and USSR Council of Ministers "On Measures for Radically Increasing the Quality of Output." A particular feature of the measures outlined is that the quality of good must be ensured from the moment of their designing. Designers, researchers, manufacturing engineers, and planners are charged with the full responsibility for developing new equipment and technology on the level of world achievements. In developing new equipment, they are obligated to make extensive use of automated planning means, modeling, the latest methods of mathematical calculations, and also the results of studies of experimental models and analogs. The administrators of associations and enterprises must constantly be concerned about providing the appropriate material base, acquiring testing and diagnostic equipment, and raising the qualifications of the creators of new motor vehicles and production processes. An effective information system is being organized with the participation of the USSR Academy of Sciences, the State Committee for Inventions and Discoveries, and ministries and departments for greater competence of designers and manufacturing engineers in the field of the latest achievements and directions of development of scientific and technical progress in the country. The creators of the end-product are granted the right to establish mandatory goals for the development engineers of materials and parts for the technical level, quality, and testing conditions of this product. Thus, the possibility is opening up for the designers and manufacturing engineers not to adjust to traditional materials, but to make bold use of progressive designs and make wide use of alloyed materials and polymers, increasing the technological qualities, reliability, and life of the machines.

Personal responsibility of production organizers for low-quality production output is increasing substantially--from the first administrators to the foremen. The presence of shortcomings in production and technological discipline is viewed as professional unpreparedness of these supervisors to carry out their duties and their incompatibility for the position held. At the same time, the decree of the CPSU Central Committee and USSR Council of Ministers authorizes, for purposes of morale and public recognition of the most talented development engineers, conferring their names on fundamentally new types of products and also setting additional pay for workers of scientific research and design organizations for performing especially important and complex work.

The problem of product quality has now become the responsibility of every collective, every worker, specialist, and supervisor. It has a decisive influence on evaluation of economic operations and on the formation of material incentive funds of collectives. For the first time, consumers of goods have been granted the right to cancel contracts with subcontractors unilaterally if low-quality goods are delivered. Furthermore, the guilty party compensates the consumer for all losses occurring as a result of contract cancellation, and the ministry is obligated to ensure make up for the delivery of goods at times agreed upon with the customer.

The decree provides for measures of material responsibility of creators and manufacturers of low-quality goods. In particular, it outlines compensation of financial losses at the expense of brigade earnings and repealing bonuses to earnings during the month when the rejects or decrease in product quality were noted. Administrators of associations, enterprises and organizations are granted the right to lower the skill rank for a period of up to 3 months for those workers who flagrantly violate production discipline. Supervisors of the corresponding plant services need to develop a system of correctly combining collecting and personal responsibility for quality, not permitting obliteration of responsibility in this important matter.

It is quite obvious that only skilled performers are capable of fulfilling all the production requirements for product quality. In this connection, each enterprise should organize continuous training of workers and specialists so that their qualifications correspond to the growing level of engineering and technology. They should completely review the work of technical training sections and personnel services, charging them with the responsibility for fulfillment of the demands of the CPSU Central Committee and the government. Incoming workers and engineering and technical personnel must not only know the specific characteristics and requirements imposed on production and technology, but also be able to ensure them. To this end, the decree recommends conducting in 1986-1987 compulsory training of workers and engineering and technical personnel, making extensive use for this of special purpose courses, schools for studying advanced methods and labor techniques, circles, and seminars.

Administrators of associations and enterprises must take energetic steps to restructure the activities of technical control services and step up their role in ensuring product quality, enhance the prestige of the control staff in

the labor collective, strengthen it with principled and demanding workers, and supply it with modern control and testing equipment. The task of the workers of these services is not to allow output of low-quality products, wage a decisive struggle against production of defective goods, and get rid of the established opinion concerning their direct responsibility for the quantitative work indicators of enterprises. In those cases when steps are not taken to prevent production of goods not corresponding to design and technical documentation, supervisors of technical control services have been granted the right unilaterally to stop accepting goods and halt shipment of them to consumers. The positions of control service supervisors are being moved to the level of deputy directors and general directors of enterprises and associations. Under conditions of expanding the rights of technical control sections, it is exceptionally important that the technical services of enterprises continually work in close contact with them.

For more strict acceptance of finished goods and more strict monitoring of the activities of associations and enterprises on questions of quality, the CPSU Central Committee and USSR Council of Ministers have considered it advisable to create a special non-departmental control agency--state acceptance, subordinating it to the USSR State Committee for Standards. This will make it possible to implement a unified state policy of product quality. This acceptance will be implemented at 85 plants beginning 1 January 1987. In the period remaining, manufacturing and other services of enterprises and associations are obligated to analyze again and put in order all standard and technical documentation, calibrating and measurement equipment, tooling, and equipment.

Departmental control is already in operation at many plants of the sector, although the results of its work are still insufficient. Its main task is to ensure proper conditions for producing high-quality products and help the control staff to organize relations with production personnel correctly. Much has to be done to organize incoming control of parts, materials, and semifinished products arriving from plants of the ministry and related sectors.

Higher demands will now be imposed on assessing quality during certification of products. It is no secret that there have been cases where the emblem of the highest category has been given to goods not meeting the world level. Thus, engines of the Yaroslavl Motor Plant were lower in economy, reliability, and a number of other indicators to the best similar engines; however, they had the Quality Emblem. The USSR State Committee for Standards repealed the earlier decision, and administrative actions were taken against the administrators. This year, the interim commission of the USSR State Committee for Science and Technology (GKNT) inspected a number of goods from the sector and ascertained that only one-third of them could be included in the quality category equal to the world level. The new requirements call for improving the selection of specialists included in certification commissions, increasing responsibility for fulfillment of their duties, and proper use of the rights granted them. The State Emblem of Quality must be given to goods completely conforming to all current requirements according to the most important indicators.

A most rapid and equally effective way of solving the problem of quality is the active participation of each labor collective. It is necessary everywhere and with new vigor to promote labor cooperation under the motto "Worker Competition," revitalize the movement of creative cooperation of workers and engineering and technical personnel, and raise the role of competition for the title "Best in the Job." It is recommended that collectives producing high-quality goods and achieving faultless work be given the honorary title "Outstanding Quality Brigade," be authorized to work with a brigade quality mark and increase material compensation.

For work incentives, the CPSU Central Committee and USSR Council of Ministers decree calls for establishing 5 more USSR State Prizes for outstanding achievements in radically improving the quality of output and consumer goods out key national economic importance and also instituting 10 USSR Council of Ministers bonuses in the amount of 15,000-20,000 rubles for achievement of stable high quality of product output by production collectives. Creative collectives of associations, enterprises, and scientific research and design institutes are eligible for these prizes. It is important to achieve a high level of scientific and technical developments and to ensure the necessary quality of produced goods, which requires decisive actions based on strict calculations and advanced experience.

We must not delay in implementing the decree of the party and government on the problem of quality. Today the technology of tomorrow and the more distant future is being developed. All the demands of the decree must be studied carefully and in detail; at each enterprise and each association practical steps must be developed to fulfill them. The leading plants of the sector are already setting up scientific centers for this purpose; they are tasked with developing future designs of goods and progressive technologies, and do this without using manuals and obsolete data from many years of testing experimental models. It is natural that these centers should be equipped with testing and diagnostic equipment, instruments, and devices for checking quality already in the planning stage, and experimental production must be calculated for producing sufficiently large batches of models with subsequent simultaneous testing under various road and climate conditions. New engineer cells need to be staffed with skilled, resourceful, persistent workers whose labor should rewarded with the appropriate incentives.

It is no simple task to create and rapidly assimilate new goods and technologies. It largely depends on properly organized joint work of the sector with related sectors, especially with ferrous metallurgy, chemistry, and petroleum chemistry. It is important to see that the restructuring in these sectors proceeds in synchronization with the activities of scientific organizations and enterprises of the motor vehicle industry and that the sector not only states the need, but also the new materials and parts are prepared in a timely manner for use. The resolution of future matters (retooling, developing internal machine tool building, economy of ferrous metal rolled stock, problems of social development of collectives) must be judiciously combined with completion of current tasks.

The sector will need to improve the entire scientific and technical information system so that creative collectives do not receive general

information on technical novelties and improvements, but purposeful data which could be use in practice. The sector information institute and plant departments must be conductors, linking elements between the state information system and developers of new technology.

Modern requirements on passenger cars, motors, and consumer goods make it necessary virtually to recreate the laboratories of designers of passenger cabins. These subdivisions need to avoid imitation and not work by some foreign style, but create their own original, promising style. Therefore, it is necessary to be considerate of each who demonstrates his capabilities and shows good results, including young specialists who are graduates of artistic schools.

High quality is guaranteed where production facilities are equipped with modern equipment and can accept new products for production, where technical re-equipment is conducted in a planned manner, and work positions are certified regularly. One should also take into account that modern organization of production is inconceivable without automated control systems and control of production processes. The development plans of the sector in the 12th Five-Year Plan calls for renewing fixed capital by at least 40 percent. This work is not a tribute to fashion, but a means of achieving high product quality. Enterprises must be modernized according to progressive plans; therefore, a greater demand must be placed on their manufacturing engineers. First of all, this pertains to the sector's leading planning institutes--the State Institute for the Planning of Motor Vehicle Industry Plants and the Scientific Research Institute of the Motor Vehicle Industry. It is precisely their task to put into the plans the new and advanced thing which science and technology has available today.

A special role in raising the quality of motor vehicle equipment being produced and that in the future belongs to the sector's proving ground--the Central Scientific Motor Vehicle Proving Ground of the Central Scientific Research Institute of Motor Vehicles and Motor Vehicle Engines (TsNIAP NAMI). Naturally, it is impossible to check every part there; however, the main assemblies and components which determine the reliability and life of the vehicles must be tested very thoroughly. To do this, the laboratories there must be equipped with modern testing equipment and testing programs, which can be used to simulate various road conditions on the testing stands. Since the proving ground is the main control point of the sector, the results of its checks must be exceptionally objective and mandatory for design and technological organizations and industrial workers: the data from the proving ground are not information, but guidance for action, and this must become the law for everyone whose product is subjected to testing.

The decree of the CPSU Central Committee and USSR Council of Ministers instructed the ministries and departments to develop and approve the necessary standards documents based on current requirements for product quality. The Ukase of the USSR Supreme Soviet Presidium on changes and additions to certain legislative acts of the USSR on labor, calling for increased responsibility for defective goods in manufacturing and for output of low-quality goods, has gone into effect.

A radical improvement in product quality is viewed by the party and the government as a key component part of restructuring out entire economic system and shifting it to the track of intensification. This task has become a nationwide matter. Collectives of enterprises and organizations of the sector must make their fitting contribution to carrying it out.



12567
CSO: 1829/72

## LUTSK MOTOR VEHICLE WORKS QUALITY CONTROL PROBLEMS

Kiev PRAVDA UKRAINY in Russian 21 Oct 86 p 2

[Interview with Lyubomir Yevgenyevich Kushil, chief engineer of the Mark Lutskiy Motor Vehicle Works, by A. Bondarchuk, PRAVDA UKRAINY correspondent; date and place not specified]

> [Text] They know the Mark Lutskiy Motor Vehicle Works both in our country and abroad. Instances of unsatisfactory equipment claims are all the more intolerable. Last year and this, more than 1.5 million rubles of production were removed from sales because of deviations from standards. What lesson did the workers in the motor vehicle works extract from this? A. Bondarchuk, our correspondent, interviewed L. Kushil, the enterprise's chief engineer, on this subject.

[Question] Lyubomir Yevgenyevich, I will say right out that the conversation will be unpleasant. You see, additions to the category of poor workmanship make no one happy....

[Answer] Naturally. It was like a cold shower for the entire collective. You see, the consequences of this sanction are quite appreciable. We cannot talk about any kind of bonus, and the material incentive fund is empty. It is hard, but these measures are necessary under present requirements.

[Question] That means that you approve of the punishment? How then did rejects nevertheless move through the gates of the works? Evidently, the monitoring service was dozing?

[Answer] It is now necessary to make an internal reappraisal, especially of the director. Yes, rejects passed through the gates. The technical monitoring department is, of course, guilty; however, we, the board of directors of the works, primarily dozed. The principle of "the shaft" -- of a good planning indicator for the output of products by items, lay heavy on us. In this situation, the quantitative plan was opposed to the quality requirements. We understood this, but we did not dare to take any decisive step. And,as you see, they touched us up from the side.

I will tell you how it was until recently. They were allowing deviations from the requirements in the shop, but the production line was moving further on. They did not stop it even at the exits. Why? Because the old stereotype thinking of those who produced: Everyone needs a plan -- a bonus also, was operative. This means that they were let go through the gates in all cases. And here we have come to an extreme step. They detected deviations from the standard -- they halted the production line. Correct it. In the shop, they thought that it would be as before -- they would make a noise, they would make some more noise, and they would give a "good". However, this time it was not to be. The production line stood still for an hour -- two -- three. There was alarm. They hurried them from the other shops -- there was no work. Telephone calls to me. You see, there would be no bonuses and no pay. It did not help. We began to make corrections. We started to produce somewhat fewer vehicles, but they were better. It was a sudden change in the psychology of the workers and engineers and a breaking of the inertia in thinking.

[Question] That means that it was not necessary to introduce anything new into the sanctions for rejects?

[Answer] No. It was sufficient to apply our rules in effect, which we had not previously used in all their severity. We also performed quite a bit of other work. Order and cleanliness became better in the shops, although it is still far from the ideal order there.

I will point out that hopes for a radical reconstruction and expansion of the works did not dampen our ardor. You see, by the end of the five-year plan, we should have produced 50,000 motor vehicles a year. However, we have recently received a new decision from the ministry: We are talking only about a smaller reconstruction and about 18,000 motor vehicles by the end of the five-year plan. A total of 12 million rubles have been allocated for these purposes. This is also not inconsiderable. The main thing is that obsolete equipment will be replaced.

[Question] It is possible to hope that rejects will completely disappear then?

[Answer] I think that it is still early to talk about any motor vehicle works being able to produce items without unsatisfactory equipment claims. A motor vehicle is a complicated technical item. For example, we do business with 700 supplier enterprises. There are rejects in each batch of components. We correct them ourselves, send them for repairs to the supplier, and turn to arbitration and the procurator. It helps, but little. A batch of brake shoe return springs has just arrived from Gorkiy -- 100 percent rejects. Similar cases are occurring with other suppliers also. Several have even sharply increased the delivery of defective products when compared with the first six months of last year: The Gorkiy one -- Krasnaya Etna and plants producing industrial rubber items in Lisichansk and Belaya Tserkov. Speaking honestly -- even now, it is possible to return quite a few vehicles to the works.

[Question] Does it turn out that deviations from quality requirements are being consciously tolerated?

[Answer] Consciously is not the word. Forced. Look at the structure of the unsatisfactory equipment claims: Hardly more than 15 percent are due to our fault; 43.3 percent are due to the fault of the Melitopol Engine Works, and 41 percent are due to the fault of the remaining suppliers. We, however, are responsible for everyone. The trademark of our enterprise in on the vehicle. Our incoming control does not always have the capability of detecting a hidden defect. Where possible, we correct an evident one. It must be admitted that we are falling short of our target by quite a bit, but you will agree that the percentage of defects in items from our supplying plants is too high and they are not concerned about radical measures in the ministry.

We also have large complaints against the metallurgists. Their discussion is, however, a short one: If you do not like the metal -- return it. You ask: "When will you send new?" "Next quarter."

[Question] Lyubomir Yevgenyevich, we have just seen a full-scale plasticene model of a vehicle with water cooling. What is its future?

[Answer] After the strengthening of the design bureau (the chief designer was replaced here), work was significantly accelerated and the design plans and specifications are basically ready. The machine should be serially produced in 1991. A complication exists in the fact that its manufacturing will be mastered without halting production. Before the time that we plug in the production line, the plant will produce and modernize the present models of vehicles.

8802
CSO: 1829/57

## BELORUSSIAN ATTEMPTS TO STREAMLINE MOTOR VEHICLE OPERATIONS

Moscow IZVESTIYA in Russian 15 Nov 86 p 2

[Article by M. Shimanskiy, IZVESTIYA special correspondent in Minsk Oblast: "A KamAZ To Order, or Once Again on the Rational Use of Motor Vehicle Transport"]

> [Text] An article entitled "A Rejected Profit, or What Is Interfering With the Combining of Small Truck Fleets" was recently published in IZVESTIYA (No 315). Today, we are returning to this problem. However, we will talk about the experience that has already been accumulated in eliminating small non-profitable truck fleets in the Belorussian SSR and the transfer of their functions to a single proprietor -- a local truck convoy.

I met with L. Bachilo, the republic's first deputy minister for motor transport, and asked him to talk in detail about this rather bold undertaking.

"Leonid Leonidovich, what caused such a reorganization of small truck fleets?"

The deputy minister smiled knowingly:

"Let us call things by their own names: It is not a reorganization of the truck fleets, but the elimination of them -- completely! What caused it, you ask? The fact that we are all living now -- our common concern for a more rational use of everything that we have. This also concerns motor transport -- and the fuel for it -- and spare parts -- and the technical maintenance of motor vehicles. All of these are the very items on which the effectiveness in using transport depends directly. Take the enterprises of the Ministry of Trade, Ministry of Local Industry and the Ministry of Housing and Municipal Services in that same Vileyka. Each one of them had two-three vehicles or, at the most, four -- and how did they load them? The Vileyka city food trade organization could send a three-ton vehicle without ceremony to a neighboring rayon center for a few boxes of sweets. Essentially, the vehicle travelled there and back empty. Everyone had become accustomed to this. The directors of these organizations and enterprises considered state transport to be 'their own'. They said: 'The vehicle has been allocated to

me -- I am its owner. Where I want it to go, there it will roll.' Many vehicles operated every other day. The directors of these enterprises and of organizations were practically not concerned about the composition of freight and its routing, thereby creating ideal conditions for additions. And what is there to be said about the use of vehicles for personal reasons! This also had become customary...."

At first, truck convoys received 38 vehicles in Vileyka and Nesvizh. True, 18 were immediately written off: They were in an extremely unsatisfactory condition (and this is not surprising-- what kind of repair base exists in pigmy fleets?). It is another matter when transport has one master. A truck convoy has a solid repair base, and experienced specialists work there. The main thing, however, is that a higher level of work organization exists there both in the garage and on the line. What is the main thing for us, the motorists? The effectiveness in transport operations. Can we really tolerate that an eight-ton KamAZ [Kama Motor Vehicle Works] vehicle, which has been transferred to us from the city food trade organization as a result of the reorganization, transports 150-200 kilograms of cargo on one trip?

Thus, the collectivization of transport has permitted us to shift to an advanced system for organizing shipments. What is its whole point? The entire rolling stock of a truck convoy operates according to specific requests from customers. V. Pakhomchik, the chief of the Main Freight Shipment Administration in the Belorussian SSR Ministry of Motor Transport, emphasizes that word: specific. A truck convoy concludes an agreement with its clients for the year broken down into months. The client's work conditions, types and amounts of shipments, and distances are clearly stipulated....

I asked Pakhomchik: "But, you see, it is necessary to transport freight to the same city food trade organization every day -- and the most diverse and time-sensitive cargoes. How is all of this linked with monthly contracts?"

"Very simply. Clients submit an operational request for each day. The truck convoy receives these requests on the day before -- up to 17 hours ahead of time. As we see, there is completely sufficient time for the customers to accurately determine how much, what and where it is necessary to transport the order to them tomorrow. The freight volumes, its nature and the distance are pointed out on a special blank form which is sent to the truck convoy. Taking this into consideration, the appropriate transport is selected: One customer is allocated, for example, a KamAZ for tomorrow, another -- a GAZ [Gorkiy Motor Vehicle Works] vehicle; and a third -- a UAZ [Ulyanovsk Motor Vehicle Works imeni V. I. Lenin] vehicle. The failure to satisfy this request, just as the failure of a client who does not supply the work frontage, is regarded as an extraordinary occurrence. A vehicle is allocated only for a specific task and not for a time as had been done before. The truck convoy adheres strictly to this principle."

"However, what if a client suddenly has an urgent requirement to transport something immediately? It does happen."

G. Neverovskiy, the chief of the Nesvizh truck combine, explains:

"We have provided for such an eventuality; we do not leave our client without a vehicle. Let us assume that it is necessary for him to ship some cargo or other immediately or to travel to a project. He calls us, and we send him a cargo taxi there and then. The client pays for its use strictly based on the meter reading in accordance with existing calculation forms. If this taxi stands idle, it is a loss for the client. Now, when they receive a cargo taxi from us, each of our clients is already thinking about how to operate it more rapidly so that this trip will cost less. Aother thing. Previously, that same city food trade organization took a vehicle from us to deliver, for example, 200 kilograms of groats. It happened that the vehicle would arrive at the base and there would be no loaders. Until they found them, the vehicle stood idle. We now require that a vehicle not stand idle but be loaded immediately."

"But how do you know whether it is standing idle or is being loaded?"

"You see, the vehicle driver is our man -- from the truck combine. He does not wish to spend a long time 'getting a tan' at the base -- this will have an effect on his pay. Here, the driver emerges as our controller. Or the following situation. They call from our clothing production association: A vehicle is needed. It must travel 100 kilometers for raw material. We allocate a vehicle at once, but we look to see what other cargo needs to go there at the same time so as to deliver it simultaneously...."

Automobiles to order. Now, many enterprises and organizations in Vileyka and Nesvizh are using them. Products are being delivered twice a day to stores, where it is provided for by a schedule. There are no interruptions in the delivery of fuel to the population. The shipping volumes of the majority of enterprises have grown and a fleet of vehicles, which is smaller than before, is servicing them.

But what is the opinion of the clients? Have their interests not suffered? There are two opinions here.

Ch. Kulesh, director of the Vileyka Woodworking Combine:

"I transferred all of my trucks to a local convoy and immediately a load was taken off my mind. There are no concerns now about transport, technical maintenance and spare parts. It is good. Problems, however, arose. It is necessary to conclude more flexible contracts with the motor transport workers so that they will completely take into considerations the interest and specific nature of our production. For example, we must transport lumber. But with what? The truck convoy's special transport is not sufficient. We are forced to turn for help to other organizations."

"Previously, you had transport for carrying lumber?"

"No. It is understandable that here the truck convoy is not at fault. However, it is necessary to resolve the problem of special purpose transport more rapidly under this system for organizing shipments. Then, we will not have any mutual resentment. And so, I repeat, automobiles to order is a task worth doing."

Another opinion -- that of V. Buleshchenko, the director of the Vileyka city food trade organization:

"This system is not always beneficial to us. Here is why. The city food trade organization has a great requirement for rapid trips to different cities in the oblasts and to the trade bases in Minsk and Molodechno. We cannot fully insure centralized deliveries of small batches of food and industrial goods. For example, there was the following case this year. For a whole week, I was not able to ship tomatoes from Minsk. The truck convoy waited until there was another shipment to Minsk. The tomatoes did not wait; they spoiled. Again -- a fair was being held in Minsk and we needed a vehicle rapidly in order to get to it earlier. However, the truck, which had already been allocated to us, was transporting another cargo and we were forced to wait, that is, we lost in operational efficiency and this factor has primary significance for trade. The following question is also important. When we had our own transport and drivers, they also performed the functions of forwarding agents. Now, not all of the drivers in the truck column want to do this. The director himself of the truck column, Rodov, has stated: "A driver is responsible for the cargo. Nothing more." Thus, it is often necessary to send a loader -- and at times, two depending on the amount and nature of the cargo-- with the driver."

As we see, the problems are serious and it is impossible to close one's eyes to them. You see, it is clear to each of us that the interests of the customer should determine the operating conditions of motor transport. Any innovation in this area loses any meaning if the movement of goods to the customer is made more difficult.

Let us recall that attempts to combine small truck fleets are not being undertaken by us for the first time. Time has passed, however, and they have been born again in their original form. Why? There can only be one answer: The system of cooperation between the truck fleet and customers has not been reinforced with sufficiently effective economic levers that would induce transport workers to place the interests of their clients in the first place.

Of course, the establishment of common truck fleets -- especially in small cities -- must be accompanied by their correct equipping with vehicles of various carrying capacities and different purposes. Only then will it be possible to arrange a rational shipping schema.

In a word, there are sufficient problems. Nevertheless, we will make simple calculations. Having received the departmental transport into their facilities, the motorists of Vileyka and Nesvizh have arbitrarily freed 18 vehicles. The annual expenditure for their maintenance and operation was almost 150,000

rubles a year. Two cities have been saved from them -- is this arithmetic really not significant? Shouldn't those, who are still giving a hostile reception to the advanced system, see reason in it? This is not a completely rhetorical question if one keeps in mind that the pool of general use vehicles is only 18 percent in the republic, and almost half of all freight is transported in them!

At the end of the discussion I asked L. Bachilo: "Will the valuable experience go beyond the limits of the two cities?"

Leonid Leonidovich confidently answered: "Yes. We want to concentrate all departmental transport on a republic scale. We have prepared proposals and have outlined measures. This reorganization promises a solid savings in fuel and state resources. The machines, which our ministry will accept from departmental facilities, will be able to transport a large number of tons of additional freight annually. Is it really possible to doubt the advantages of this method?"

8802
CSO: 1829/57

## TIRE TEST FACILITY UNDER CONSTRUCTION IN KRASNODAR KRAY

Moscow IZVESTIYA in Russian 4 Nov 86 p 3

[Article by A. Blokhnin: "What Kind of Tire Will It Be?"]

> [Text] An area for a special proving ground, where motor vehicle tires will be tested, has been selected in Krasnodar Kray not far from the city of Apsheronsk.

Normally, the image of a new model of a motor vehicle is primarily connected with a new body, engine and uncommon finishings. Only the specialists know what "innovation percentage" a tire supplies. A vehicle's comfort, its stability and, consequently, its safety depend a great deal on the tire's design. And economy? The engine and tire nearly share it equally.

There is something behind the fact that the leading foreign firms, which are producing motor vehicle "footwear", have built 13 proving grounds for the testing of tires at the present time. These research centers have not only a collection of roads with different pavements but also well equipped laboratory buildings. It's as if the engineers had arranged things: The tire is one of the most mysterious spots on a modern motor vehicle!

In our country, they have tried for many years to combine the testing of tires with other types of tests at the NAMI [Central Motor Vehicle and Automotive Engine Scientific Research Institute] Dmitrovskiy Motor Vehicle Proving Ground. The task, however, was complicated not only by the collection of roads, which was not quite suitable, but also by the fact that the tests had to be interrupted during several winter months and continued under expeditionary conditions in Central Asia, Kazakhstan and Georgia.

V. Arkhangelskiy, chief of the capital construction department in the Soyuzshina All-Union Production Association, says: "The Apsheronsk Proving Ground will occupy 250 hectares. The main test circle will extend for 10 kilometers. There will be roads covered with cobblestones and paving blocks and sandy sections here. A dynamometer speed strip, equipped with special equipment for recording the different parameters of a tire under extreme loads and for photographing its deformation and 'tracks' -- the areas of contact with the load's pavement -- will be built separately."

The engineers of the Soyuzdorproyekt [State Design Institute for Researching and Designing Motor Vehicle Roads] Institute have completed their research and have prepared technical documentation valued at five million rubles for the builders. In doing this, not only the interests of the production complex at the proving ground but also the development of the city of Apsheronsk were taken into account.

The economists think that if we manage to increase the life of tires by only 10 percent, this will solve the problem of their shortage in the country. By reinforcing theoretical and experimental work with a modern test base, the specialist technicians hope to double this indicator.

8802
CSO: 1829/57

## PRIMORYE KRAYKOM 1ST SECRETARY ON MARITIME TRANSPORT ISSUES

Moscow VODNYY TRANSPORT in Russian 27 Nov 86 pp 1-2

[Interview with D.N. Gagarov, first secretary of the Primorye CPSU Kraykom, by VODNYY TRANSPORT special correspondents A. Mikhasenko and Yu. Lykov; date and place not specified; first two paragraphs are source introduction]

[Excerpts] CPSU Central Committee General Secretary M.S. Gorbachev's trip to the Far East brought to light not only the acute problems of the region, but at the same time helped to outline real ways of solving the most critical problems. In meetings and talks with the Far Easterners specific ways for eliminating existing shortcomings were identified, and reserves for increasing the rate of growth and development of both production and social spheres were discussed. The party organizations of the Far East headed this difficult work.

The Primorye CPSU Kraykom holds a special role among these organizations. The USSR Ministry of the River Fleet in the Primorye has two shipping companies; operating as a part of them are such major ports as Vladivostok, Nakhodka, and Vostochnyy. These are in addition to the three ship repair yards and various small services and enterprises. The following deals with what tasks the seamen, port workers, and ship repair workers are carrying out today.

[Question] Dmitriy Nikolayevich, a recent session of the CPSU Central Committee Politburo approved the sector's transition on 1 January 1987 to total self-supporting operation and self-financing. How does the kray party organization assess the preparations being made for this most important measure by the administration and party committees of the Far East and Primorye shipping companies?

[Answer] In beginning our conversation, it must be noted that the seamen have always been champions of progress in the kray's economic and social life. The kray party organization is clearly aware of its importance for development of the region's economy. By way of illustration, today one-sixth of the dry cargo fleet of the Ministry of the Maritime Fleet (MMF) is registered to Far Eastern ports. The Far East (DVMP) and Primorye (PMP) shipping companies account for 56.5 percent of the cargo shipments in the Far Eastern Basin and 82 percent of the freight turnover. The seamen have made a weighty contribution to opening up regions of the Far North and Antarctica, year-round

navigation to Magadan, introducing containerized shipments and organizing direct shipments, and assimilating the transport barge transporting system.

In their progressive movement they have a positive effect on other types of transport and on the kray's industry. There a many examples. These include transporting products from the "Spassktsement" Production Association in heavy-cargo containers and pack-loading of lumber at port points with the aid of closed tow line. The continual increase in foreign trade volume is spurring on expansion and modernization of ports and the network of railroads and highways and enhancing, if you will, the prestige and popularity of the Primorye.

The transition to total self-supporting operation and self-financing will give new impetus to developing progressive methods of cargo shipments and mobilize the creative potential of the people. But one cannot assume that this process will take place in the twinkling of an eye--even in the stage of economic studies specialists have encountered great difficulties. Work in the Arctic, year-round navigation in the Sea of Okhotsk, and delivery of cargo to an unequipped shore require a modern specialized expensive fleet. It is coming. For example, SA-15 type vessels have proven themselves very well, the fleet will be replenished with the new motor ship "Vitus Vering" of the SAS-8 series, and consignees have evaluated the merits of the lighter "Aleksey Kosygin." But a fleet costs millions of rubles! Shipment costs are rising sharply and the output-capital ratio is decreasing, as was the case in the 11th Five-Year Plan and continues to be today.

For example, the plan for social and economic development of the PMP for the 12th Five-Year Plan calls for an 80.8 percent increase in fixed assets and a 6.2 percent increase in profits. In this case, at the current standards of deductions, the enterprise will not even be able to settle accounts with the state budget, let alone form incentive funds.

Calculations show that both shipping companies can be profitable enterprises under self-financing conditions by observing the wise and realistic, thoroughly considered approach of the Ministry of the Maritime Fleet and Ministry of the Shipbuilding Industry towards ordering and building an expensive fleet. I would like to say to both departments: Before ordering and building, they need to ask the shipping company if it needs the new ships and will they be able to operate them efficiently.

By way of illustration, in 1988 the DVMP collective expects to receive the nuclear-powered lighter "Sevmorput." However, preliminary calculations show that the shipping costs of one ton of cargo in the area of Chukhotka, for example, will come to approximately 107 rubles, while the average shipping costs on conventional vessels do not exceed 19 rubles. In other words, an average of about 74 rubles in additional payment is needed for each ton of cargo transported on the nuclear-powered lighter. In the end, all direct expenditures and overhead will be reflected in the price of goods delivered to the residents of the Eastern Arctic, Chukhotka, Kamchatka, and Magadan. Therefore, the desire mentioned above also equally applies to compiling a practical normative base.

The objective complexities and even contradictions of going over to new methods of economic operations management do not remove the responsibility from the shipping companies. In the DVMP, for example, this work began back last year and continues today at an increasing tempo. It is made up of two interrelated parts: organizational-technical and ideological. Economic calculations of self-support have been made based on the 11th Five-Year Plan, various variations of projects of the 12th Five-Year Plan have been miscalculated, and the management staff is being reduced by nearly one-fourth. Crew strength has already been reduced on 110 vessels this year, and fleet support facilities on shore are being improved. The basis of planning shipments under the new conditions is contracts with customers.

[Question] Will the economic and operating independence of shipping companies make it easier to satisfy the needs of the Primorye for cargo shipments?

[Answer] It is hard to answer that question simply. Performing a large part of coast shipments in the region, the DVMP's large-capacity fleet practically does not take part in intra-kray shipments. This is explained by the lack of freight flows and a network of ports on the coast. The small port fleet carries 1.7 million tons of cargo annually, unloading railroad and motor transport. The PMP brings in fuel on low-capacity tankers the year-round primarily to the port point of Rudnaya Pristan and delivers 700,000-800,000 tons of fuel annually to areas of the expeditionary trade for the fleet of the "Dalryba" VRPO.

The contribution of the seamen to the kray's economic potential must be great. It must be emphasized that this is primarily an intra-kray problem, the solution of which affects major industrial enterprises and associations of the Primorye. For example, development of the Far East Mining and Smelting Combine requires creating ports and port points on the coast and development of coastal sea lines of communication. The development of northern areas of the kray rich in minerals also depends on this. But this work is proceeding slowly. Part of the blame for this belongs to local Soviet and party organs. The kray party committee is also responsible. We are already in the fourth 5-year period of putting in the bulk plant and tanker mooring at the same Rudnaya Pristan. Petroleum products are unloaded onto barges at a rate of 80-90 tons per hour. It takes a 4,000-ton tanker 2 days to unload, although technically this can be done in 10-12 hours.

Due to a low level ofexactingness, effective measures have not been taken by the "Dalmorgidrostroy" Trust to complete construction of the association "Bor" and "Dalpolimetal." Besides being inefficient, roadstead unloading often involves oil spills, which is not at all permissible.

The comprehensive program of development of the Primorye being worked up consider the possibility of expanding coastal navigation, which will increase the role and importance of maritime transport in the life of the kray. But it is already apparent that, above all, the departmental approach is interfering with this. Each is waiting for its partner to take the first step or for a "command from above." But it is necessary to show initiative.

[Question] During his trip through the Far East, Mikhail Sergeyevich Gorbachev visited Vostochnyy Port and rated highly the work of the enterprise. At the same time, it is no secret that its potential is not being utilized completely; the port has to grow and build up its capacities. The social base of the port workers has lagged behind considerably. In your opinion, what fundamental steps are necessary to intensify the work of the enterprise?

[Answer] Vostochnyy is called the gates of the Baykal-Amur Mainline (BAM) to the ocean, the port of the future, the real embodiment of technical progress. And all this is true. But with all its merits, Vostochnyy still remains a low-profit enterprise. The main reason is the under-utilization of capacities. But one should examine its potential by parts. Perhaps the worse situation is with utilization of the chipping complex. Put into operation in 1975 and equipped with the most modern equipment, it not only has not yet reached rated capacity, but to the contrary; the volume of chip processed decreased from 610,000 tons in 1976 to 273,000 tons in 1985 (34 percent of design capacity). The reason for the drop in freight flow is in the quality of chips produced at enterprises of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry.

The lack of modern equipment and technology at enterprises of the Ministry of the Timber, Pulp and Paper, and Wood Processing Industry leads to idle time of modern equipment at the port and specially built chip barges hauling other cargo. As a result, the country's export potential and actual influx of currency decrease. Where is the solution?

On our part, we are taking steps to increase chip production by timber industry facilities of the kray. For example, we have purchased highly productive equipment. But this is not enough. It requires a concerned approach by all ministries and departments involved in this important matter. Such an approach is still not being shown.

The under-utilization of the coal complex capacities is also explained by insufficient freight flow. But unlike the chip complex, it is picking up and will be operating at full capacity in the near future. Two other aspects having a negative effect on the operation of the complex should be noted. This is the degree of contamination of the coal with foreign metal objects which disable the conveyer belts. Quite recently, for example, a conveyer about 900 meters long was cut by a metal plate; the complex was disable for several days. Tons of metal are extracted from the coal. Appeals by the Far East Shipping Company all the way up the chain to the USSR Committee of People's Control (KNK) have yet to yield any results. The USSR Ministry of the Coal Industry and Ministry of Railways are not taking concrete measures to correct the situation, although they are obligated to do so.

[Question] A coordination council of the Far East Transport Center was created not long ago--a serious step. However, recently specialists have been expressing the opinion that the work of the related sectors requires legal underlying causes, otherwise the desired coordination will not be obtained. After all, this is a public formation. What is your opinion on this?

[Answer] The council, created in March 1985, became the logical continuation and expansion of the experience of cooperation of related sectors and has played a positive role in speeding up processing of transport equipment.

In the period since then, the gross rate of processing the fleet has increased by 18.5 percent, and the processing time of rail cars has been reduced by 23 percent at transport centers. This made it possible in 1985 alone to free about 32,700 units of rolling stock, reduce by nearly one-third the layover of motor transport, increase it freight turnover by 35 percent, and relieve the railroad.

In practice, it is necessary to create a single transport agency given the rights and responsibilities of all transport ministries and departments operating today. This is one way of eradicating the highly departmental approaches in resolving operational issues. The principal center of these problems is the departmental normative base. Any decisions by economic managers must be based on the normative base existing in their sectors. Sectorial laws enjoying equal rights collide at the junction of transport sectors. Decisions seemingly advantageous from state positions often infringe upon the interests of some department. And conferences more often are concerned with the idle time of rail cars and not with freight delivery.

At the kray reports and elections conference, Hero of Socialist Labor S. Maslov, capital of the chip barge "Grigoriy Alekseyev," proposed creating a single national transportation system in which all normatives would be aimed at door-to-door shipment of freight by all types of transport. I believe that the work to create an overall normative base could become an important stage in breaking departmental barriers.

I would particularly like to emphasize the role and participation of scientific organizations in developing the theory and practice of transport worker cooperation. So far, science's contribution to this important matter has been small. For example, for a long time the "Dalmorniiproyekt," the Khabarovsk Institute of Rail Transport Engineers, the Automation and Control Processes Institute (IAPU) of the Far East Scientific Center, specialists of the Far East Navigation and Far East Railroad have been developing an automated control system for maritime and rail transport cooperation for the Vladivostok and Nakhodka transportation centers. Many resources have been spent, but there is still no system. There are only solutions to individual problems. Experienced workers make many sound suggestions at various meetings. Everyone agrees with the need to plan shipments from the door of the consigner to the consignee and to create a single set of standardized shipping rules for all types of transport, mandatory for all customers. It is necessary to establish a single procedure for presenting and reviewing claims and lawsuits and create a single transport dispatching organization....

There are many proposals. Some would consider them controversial, but after all it is precisely in controversy that the truth emerges. The problem of cooperation of transportation sectors is coming to the fore today, and it must be resolved without delay.

[Question] What efforts are kray party organization making to intensify and increase the volume of shipments to areas of the Arctic coast?

[Answer] This can be called a strategic task. It was set forth at the 27th CPSU Congress. Intensification of Arctic shipments is being ensured by a number of measures being carried out.

Above all, this involves organizing socialist competition of seamen, port workers, and ship repair workers and is aimed at searching for reserves and developing initiative. This year it made it possible to complete delivery of Arctic cargoes more than a month earlier than the established deadlines.

Efficient use of the modern icebreaker-transport fleet is equally important. Thanks to this fleet, the navigation period in the Arctic has increased significantly. Much attention is being given to increasing the volume of container shipments and the quality of cargo delivery, including food cargo. New transport and technical plans, containerization and palletization play a large role in intensification. Chukhotka container lines have been organized several years now with the opening of navigation.

The DVMP has organized and continues to increase delivery of cargo in large-capacity containers to the port of Anadyr and further up the upper part of the river to Mys Shmidta. There is no need to repeat the merits of containerized delivery of cargo, but one should remember that the ministries and departments shipping cargo to the Arctic are not fulfilling this key condition of shipment efficiency. The port workers of Vladivostok and Nakhodka annually load tens of thousands of tons in containers and take on this labor-intensive work themselves.

By the end of the 12th Five-Year Plan, one-sixth of the amount of general cargo of all bulk shipments will be delivered to consumers on the lighter "Aleksey Kosygin." The lighter transport system will ensure a high degree of cargo safety and will largely reduce the effect of manpower shortage.

The increase in the volume of liquid cargo shipments to the Eastern and Central Arctic and the shortage of icebreaker-class tankers require the PMP to search for new forms of fleet operation. One such form is the use of large-capacity tankers not having an icebreaker class for transporting petroleum products to the edge of the ice, with subsequent reloading to "Samotlor" type tankers.

In 1986, the tankers "Rikhard Zorge," "Borzhomi," and "Proletarskaya pobeda" from the Novorossiysk Shipping Company (NMP) and the tanker "Leninskoye znamya" from the Primorye Shipping Company were used for this purpose, operating on the line from Nakhodka to Provideniya. The tanker "Panteleymon Ponomarenko" from the Latvian Shipping Company (LaMP) operated on the line from Arkhangelsk to Dudinka.

About 26 percent of the petroleum products were delivered during this navigation season using this shipping plan, which made it possible not only to make timely deliveries of planned amounts of petroleum products to consumers of the North, but also to fulfill the target set by the Ministry of the

Maritime Fleet for additional delivery of petroleum products to points of the Yakutsk ASSR.

The most complete utilization of tanker carrying capacity is also quite important for timely delivery of petroleum products to the Arctic. This can be tracked graphically by the following example. Use of non-cargo capacities, such as deep tanks and washing tanks, on "Samotlor" type tankers makes it possible to transport up to an additional 1,200 tons of petroleum products each trip. One tanker makes an average of 2-3 trips to the Arctic during the navigation season, i.e., transports an additional 2,400-3,600 tons of cargo. About 30,000 tons of petroleum products are transported in non-cargo capacities by all the "Samotlor" type tankers during a navigation season, which is equates to two trips by these tankers to the Arctic.

As we know, navigating in the Arctic is fraught with difficult ice conditions. Therefore, ice damage to tankers is quite likely when navigating in heavy Arctic ice.

The lessons of the 1983 navigation season, when practically the entire fleet used for shipping to the Arctic was damaged, the insufficient repair base, the workload of ship repair yards and also the need for absolute fulfillment of the production plan, and preparation of the fleet for the next Arctic navigation season forced the shipping company to look for effective ways of lowering financial losses from ice damage.

[Question] For a number of years complaints have been made about the Ministry of the Maritime Fleet regarding poor development of the passenger fleet in the Far East. Is this situation improving? If not, we would like to know your suggestions for improving passenger service.

[Answer] During the past years one should note a sharp worsening of passenger service in the basin. All told, the DVMP's passenger transport fleet carries about 170,000 passengers per year. At the same time, massive passenger transport is not provided during the summer period. By way of illustration, it should be said that for the requests of the Primorskiy Kray Council on Tourism and the "Sputnik" Bureau of Youth Tourism, instead of the 250 ship-days requested, not more than 100 are allocated. Only half of the needs of the extracting and processing fleet of the "Dalryba" VRPO operating in remote industrial areas of the Pacific Ocean are being met.

Passenger vessels are not leased at all between May and October, which results in disrupting the established time periods crews are continually at sea, overworking of the people, and causes numerous well-founded complaints. The lack of the required amount of passenger seats make it necessary to replace crews at the port of registry, which sharply decreases the economic efficiency of fleet usage.

Things are no better with the development of local passenger transport. In the 12th Five-Year Plan there are plans to decommission four of the five "Kometa" class hydrofoil craft, three sea ferries, and several launches; but we will receive only five coastal navigation passenger vessels, and then only by 1990. The decommissioning of the "Kometa" craft will result in the closing

of the usual high-speed lines between the kray center and populated points located on the coast.

According to scientific predictions, there is expected to be a further increase in passenger turnover, which by the year 2000 will be 195,000 people. Taking into account the shortage of passenger tonnage and the proposed decommissioning of the fleet, shipment volumes will not be ensured without equivalent replacements.

The ways chosen by the Ministry of the Maritime Fleet for solving this problem, from experience of the 11th Five-Year Plan, cannot be considered promising. In response to the numerous promises, the ministry has transferred from western shipping companies to the Far East the motor ship "Aleksandr Pushkin," which is more than 20 years old, and the "Antonina Nezhdanova," built in 1978. True, in 1986 we received the motor ship "Mikhail Sholokhov" and there are plans to receive another motor ship of this class. At the same time, the motor ships "Grigoriy Ordzhonikidze" and "Moisey Uritskiy" were decommissioned, and there are plans to decommission three more passenger vessels. As a result, there will be no quantitative growth in the DVMP's passenger fleet.

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## IMPROVED ANGARA-RB-1 COMMO EQUIPMENT FOR RIVER FLEET

Moscow RECHNOY TRANSPORT in Russian No 9, Sep 86 pp 38-39

[Article by N. Mokrushnikov of the TsNIIEVT [Central Scientific Research Insitute for Water Transport Economics and Operation] under the "New Means of Communication" rubric: "'Angara-RB-1' Radio Equipment"]

[Text] A system of radio-landline [radioprovodnoy] communication, using metric-wavelength [VHF] and decimetric-wavelength [UHF] radio equipment [stantsii] in combination with shore communication channels, is being introduced extensively in river transport. It is the primary system for both long and short distances. Radio communication in the decametric [HF] and hectometric [MF] wavelengths also is used simultaneously in river basins of the RSFSR's European part. This is explained by the economic advisability, maintenance simplicity, and great propagation range of this radio equipment, along with its relatively small dimensions and weight.

Radio communication in the decametric [HF] and hectometric [MF] wavelengths is primary for long-range communication with ships of mixed "river-sea" navigation located at sea, and also in the country's eastern basins, inasmuch as the formation of a radio-landline communication system there is being delayed because of the lack of shore communication channels along the waterways. Besides, radio equipment [stantsii] of these wavelengths must be installed on passenger and cargo vessels of classes "O-PR," "M-PR," "M," and "O" in accordance with an RSFSR River Registry requirement.

At present, obsolete double-sideband [dvukhpolosnyye] radio equipment [stantsii] of the "Irtysh" and "Linda-M" types, and single-sideband [odnopolosnyye] equipment [stantsii] of the RSO [not further identified], "Groza," and "lastochka" types is being used for effecting ships' radio communication on these wavelengths. This radio equipment [stantsii] does not meet modern operational requirements. The "Angara-RA" type single-sideband radiotelephone equipment [stantsiya] (frequency range 1.6 to 9 MHz), which is being installed in Minrechflot [Ministry of the River Fleet] vessels and shore stations [punkty] at the present time as primary or backup radiotelephone equipment [stantsiya], was developed to replace it.

The radio equipment [stantsiya] was developed on a modern microcomponent basis, and has rather small dimensions and weight, as well as low electric power con-

sumption. A digital frequency synthesizer, providing coverage of the operating frequency range with 100-Hz spacing, has been used in the radio equipment [stantsiya]. Due to the great frequency stability of the transmitter and receiver (± 20 Hz), establishment of communication without searching and without tuning is ensured in the A1A, j3E, and H3E modes. In the radio equipment [stantsiya] there is a system for digital broadcast and individual selective calling, there is local and programmed control from the front panel, and the working condition of the radio equipment [stantsiya] as a whole, and module by module [poblochno], is monitored automatically.

However, along with its merits, the "Angara-RA" radio equipment [stantsiya] has some deficiencies that were discovered in the course of its operation. Control of the "Angara-RA" radio equipment [stantsiya] can be effected only from the front panel (including the programmed control as well). And if circumstances do not permit emplacing the radio equipment [stantsiya] in the communication or navigation console, the navigator has to turn away from watching the situation in the shipping lanes during conversations, which reduces the safety of navigation.

The antenna-matching system used in the "Angara-RA" radio equipment [stantsiya] permits matching the transmitter's output with the antenna in the operating frequency range only by the manual method, and, because of this, communication-establishment time is increased, and immediacy is reduced.

For the purpose of eliminating these deficiencies, new, automated, single-sideband radio equipment [stantsiya] was developed based on the "Angara-RA" radio equipment [stantsiya], the "Angara-RB-1" equipment (frequency range 1.6 to 9 MHz), which passed state tests in 1985 and was recommended for series production in domestic plants.

The "Angara-RB-1" radio equipment [stantsiya] is intended for organizing ships' two-way radio communication with points ashore in one-frequency and two-frequency simplex operation. Into the "Angara-RB-1" radio equipment's [stantsiya] composition (see figure 1) go the transmitter (1), a receiver (6), an automatic matching system (3), a power supply for an alternating current circuit and a power supply for a direct current circuit (4), a remote control unit (PDU) (5), and two loudspeakers (2). The radio equipment [stantsiya] consists of structurally and functionally complete units and modules, and modules and submodules of the same kind are interchangeable. The PDU's construction allows its incorporation into communication or navigation consoles. The automatic matching system module may be installed on the bulkhead or the overhead in the immediate proximity of the antenna lead.

It must be noted that the developers and designers of the "Angara-RB-1" radio equipment [stantsiya] proceeded, not along the path of creating a new design for the transmitter and receiver and the radio equipment's [stantsiya] component parts, but along the path of expanding its functional capacities and improving the technical parameters of both its control automation and establishment of communication.

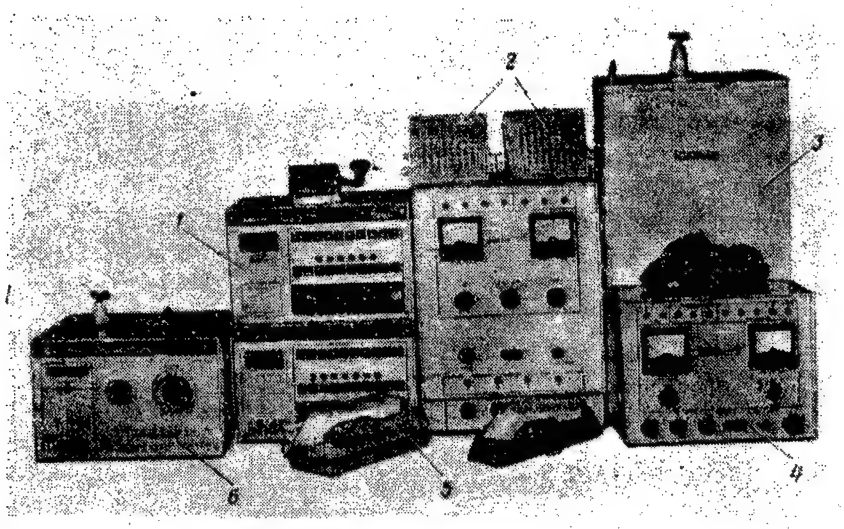

Figure 1. "Angara-RB-1" Radio Equipment Components

Key:

1. Transmitter [two are shown]
2. Two loudspeakers
3. Automatic antenna-matching system
4. Power supply for direct current circuit [indicated] [Power supply for alternating current circuit is under loudspeakers]
5. Remote control unit [PDU]
6. Receiver

Integrated microcircuits [microchips] of a high and intermediate degree of integration and a microprocessor unit (mikroEVM [microcomputer]) are used in the radio equipment [stantsiya]. The level of its technical characteristics is comparable to that of the best foreign examples. The "Angara-RB-1" radio equipment [stantsiya] belongs to the fourth generation of radio communication equipment.

A distinctive feature of the radio equipment [stantsiya] is that a system for the automatic establishment of communication through effecting the scanning of eight randomly selected frequencies (channels) at a time, with subsequent automatic shifting of the transmitting and receiving sets to any operating channel (out of 30 possible), has been used in it for the first time. There is a timer in the radio equipment, operating in the actual time scale, which permits automatically switching on and switching off the radio equipment [stantsiya], at a time set in advance, up to 12 times per 24-hour day. In this case, a calling signal is transmitted automatically in a fixed program when the radio equipment [stantsiya] is turned on. The calling frequency, the subscriber's individual selective-calling number, the mode of operation, and the transmitter's power usually are recorded in the program. If the radio station being called is not engaged in conversation with another subscriber, it automatically transmits receipt responses upon receiving the calling signal. Thus, a communication channel between two subscribers is established automatically at the time set in advance.

Thanks to use of the microprocessor unit, the dimensions and weight of the "Angara-RB-1" radio equipment's [stantsiya] transmitter are similar to the dimensions and weight of the "Angara-RA" radio equipment's [stantsiya] transceiver, although its functional capacities are considerably more extensive. In contrast to the "Angara-RA" radio equipment [stantsiya], the antenna-matching system used in the "Angara-RB-1" radio equipment [stantsiya] permits automatic matching of the transmitter's output to any shipboard antenna, which substantially increases the immediacy of radio communication, and facilitates the establishment of communication when shifting from one frequency to another.

The selective calling system provides for group selective calling in addition to broadcast and individual calling. Besides the functions performed by the selective calling system in the "Angara-RA" radio equipment [stantsiya], it transmits the calling station's own individual selective calling number, and digital indication of this number, to the receiving station. As a result, there emerges the ability to determine the name of the calling station.

The "Angara-RB-1" radio equipment [stantsiya] can be controlled both from the front panel and from a remote control unit [pult distantsionnogo upravleniya - PDU], which allows the navigator not to be distracted from watching the ship's situation when carrying on conversations.

The following operations are provided from the remote control unit: selection of any of the programs; automatic transmission of an alarm signal; shifting the receiver's "receive" and "stand-by receive" modes; shifting the "reception-transmission" modes by using the PDU telephone handset's push-to-talk button; indication of a calling signal's receipt and transmission; adjusting the loudness of the telephone handset and headphones; turning the receiver and transmitter on and off; adjusting the program-number indicator's brightness, with reduction of brightness to zero; as well as a capacity for operating with a telegraph key in mode A1A, and listening for the telegraphic signal oneself.

In order to control the radio equipment [stantsiya] from the PDU, it is necessary to record programs in the radio equipment's [stantsiya] memory beforehand, and the following sequence must be observed in doing so. First, the receiver and transmitter are turned on, the "record" ["zapis"] button on the transmitter's front panel is pressed, and the "record" indicator lights up. Then the required program number is selected on the transmitter by pressing the appropriate buttons, the "power" ["pitaniye"] is turned on with button 1 on the transmitter, and the frequency is selected with the proper buttons on the transmitter. The operating mode is selected by pressing the "tuning" ["nastr."] button and the appropriate buttons on the transmitter.

The receiver is turned on by pressing its "power" button, and the required frequency is set with the proper buttons on it. When selecting the required receiver operating mode, the loudspeaker, the ARU [automatic gain control], and the 20-decibel attenuation [squelch control] may be turned on or off. Then, with the appropriate buttons, the individual selective calling (IV) or command number is selected; program recording is terminated by pressing the "end recording" ["konets zap."] button on the transmitter's front panel, and with this, the "record" indicator light will go out.

After this, the PDU (see figure 2) may be prepared for operation.

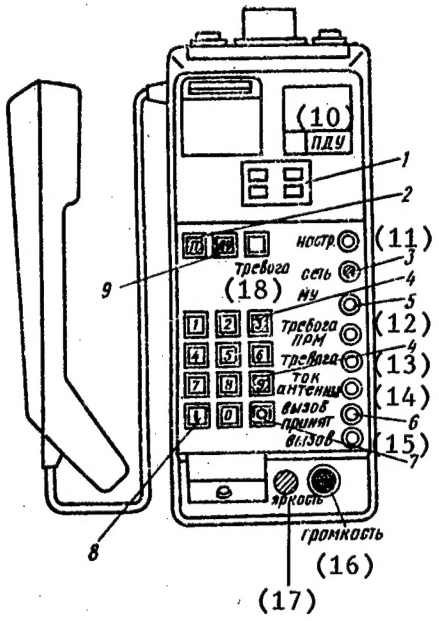


Figure 2. Remote Control Unit [PDU]

Key:

1. Indicator lights [digital]
2. "Program" ["P"] button
3. "Power on" ["Set"] indicator light
4. Program-number selection buttons
5. "Local control" ["MU"] indicator light
6. "Call received" ["vyzov prinyat"] indicator light
7. "Terminate" ["O"] equipment turn-off button
8. PDU [remote control unit] power turn-on button
9. "Remote control" ["DU"] function button
10. PDU [remote control unit]
11. "Tuning" ["nastr."] indicator light
12. PRM [not further identified] alarm [trevoga] indicator light
13. Alarm [trevoga] indicator light
14. Antenna current [tok antenny] indicator light
15. "Calling" ["vyzov"] indicator light
16. Loudness [gain] adjustment knob
17. Brightness adjustment knob for program-number indicator lights
18. Alarm [trevoga] push button

For this purpose, it is necessary to turn on the PDU's power by pressing button (8), whereupon the "power on" ["set"] indicator (3) and the "local control" ["MU"] indicator (5) will light up. The PDU is shifted to the remote control

[DU] mode by the "DU" button (9). To send a call to a subscriber, the "program" ["P"] button (2) must be pressed; the required two-digit program number is selected with the buttons (4), whereupon the "program number" will be displayed on the indicator (1). If the call is received, the "call received" ["vyzov prinyat"] indicator (6) will light up after a few seconds. Thus, it is necessary to press just three buttons to call a subscriber (the "P" button and the two program-number buttons).

The transmitter and receiver are turned off by pressing the "terminate" ["O"] button (7) on the PDU. The "power on" ["set"] indicator light will go out.

The navigator's or radio operator's work is facilitated considerably when operating the radio equipment [stantsiya], inasmuch as the operations of turning on the transmitter and setting up its frequency, mode of operation, and power, matching the transmitter's output with the antenna, and sending the call are eliminated.

The high degree of the "Angara-RB-1" radio equipment's [stantsiya] control automation will influence the organization of ships' radio communication in the metric [VHF] and decimetric [UHF] wavelengths on inland waterways. In comparing the "Angara-RA" and "Angara-RB-1" radio equipment [stantsii], the conclusion may be reached that development of new radio equipment [stantsii] for the river fleet is proceeding along the lines of expanding functional capacities, automating control and the establishment of communication, and increasing the reliability and standardization of parts, units, and modules.

For purposes of acquiring experience in the communication system's operation and determining its technical and operational capacities, the Ministry of the River Fleet will equip cargo vessels and shore stations in the East Siberian Shipping Company with this radio equipment [stantsii] during 1986 and 1987, and will analyze the results obtained for the subsequent development of communication systems.

Table 1. Basic Technical Data

"Angara-RB-1" Radio Equipment [Stantsiya] [Overall]

| | |
|---|---|
| Range of fixed frequencies, in MHz | 1.6 to 9 |
| Frequency deviation under all destabilizing factors, in Hz | ±20 |
| Bandwidth [Shag setki chastot], in Hz | 100 |
| Operating mode (emission types) | A1A, H3E, j3E |
| Number of subscribers in selective calling system | $10^5$ |
| Number of programs in memory | 45 |
| Electric power | |
| Direct current, in volts | 24 $^{+3.6}_{2.4}$ |
| Alternating current, in volts, Hz | 220 ±10%, 50 |

[Table continued on next page]

Table 1. Basic Technical Data [Continued]

Electrical Parameters of the Transmitter

| | |
|---|---|
| Peak output power on antenna equivalent, in watts | 50-60 |
| Carrier frequency level, in decibels | |
| in j3E, not over | -40 |
| in H3E, not over | -6 ±2 |
| Side emissions level, in decibels | |
| not over | 43 |
| Power required by transmitter | |
| from direct current source, in watts | 320 |
| from alternating current source, in volt-amperes | 780 |

Electrical Parameters of the Receiver

| | |
|---|---|
| Minimum discernible signal with 750-meter antenna equivalent, given -12 decibel (SINAD [not further identified]) signal to noise ratio, in microvolts | |
| j3E not under | 1.5 |
| H3E not under | 3 |
| A1A not under | 1.2 |
| Coefficient of nonlinear distortion, in percentage | |
| not over | 7 |
| Two-signal adjacent channel selectivity in mode j3E, in decibels | |
| not under | 70 |
| Intermodulation selectivity in mode j3E, in decibels | |
| not under | 60 |
| Frequency response variation, in decibels, not over | 6 |
| Heterodyne [local oscillator] emission level at antenna lead, in nanowatts, not over | 1.5 |
| Receiver's nominal output power, in milliwatts | |
| at 4-ohm loading, not less than | 1,000 |
| on 600-ohm line, not less than | 1 |
| Shielding of receiver upon delivery of high frequency voltage to the input, as a level, in volts | 100 |
| Power required by receiver in "stand-by receive" and "receive" modes, not more than, | |
| from direct current source, in watts | 35 |
| from alternating current source, in volt-amperes | 200 |

Overall Dimensions, in Millimeters

| | |
|---|---|
| Transmitter | 275 X 250 X 180 |
| Receiver | 275 X 245 X 180 |
| PDU | 235 X 105 X 90 |
| Antenna matching system | 275 X 550 X 90 |
| Loudspeakers | 142 X 132 X 60 |
| Power supply for 220-volt alternating current circuit | 275 X 220 X 375 |
| Power supply for 24-volt direct current circuit | 275 X 135 X 215 |

[Table continued on next page]

Table 1. Basic Technical Data [Continued]

Weight, in Kilograms

| | |
|---|---|
| Transmitter | 9 |
| Receiver | 7.5 |
| PDU | 1.2 |
| Antenna matching system | 12 |
| Loudspeakers | 0.65 |
| Power supply for 220-volt alternating current circuit | 25 |
| Power supply for 24-volt direct current circuit | 8 |



12319
CSO: 1829/49

END